

CITY OF SANTEE, CALIFORNIA
DEPARTMENT OF DEVELOPMENT SERVICES



**INVITATION TO BID & CONTRACT DOCUMENTS
FOR**

**MAST PARK IMPROVEMENTS
CIP 2008-53**

JULY 2018

Project Number:	CIP 2008-53
Time for Completion:	180 Working Days
Engineer's Estimate:	\$ 9,300,000.00
Bid Opening Date/Time:	Thursday, August 16, 2018 at 10:00 a.m.
Prebid Meeting:	Wednesday, July 25, 2018 at 10:00 a.m.

(Intentionally Left Blank)

CITY OF SANTEE
SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
MAST PARK IMPROVEMENTS
CIP 2008-53

Prepared by:

City of Santee
Department of Development Services
10601 Magnolia Avenue, Building 4
Santee, CA 92071-1266
(619) 258-4100

Steven Miller, P.E.,
Senior Civil Engineer
RCE: 76579



Table of Contents

NOTICE INVITING SEALED BIDS	1
INFORMATION FOR BIDDERS	6
SPECIAL PROVISIONS	15
PART 1 GENERAL PROVISIONS	16
SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS	16
1-2 TERMS AND DEFINITIONS.....	16
SECTION 2 - SCOPE AND CONTROL OF THE WORK	17
2-1 AWARD AND EXECUTION OF THE CONTRACT	17
2-3 SUBCONTRACTS.....	17
2-4 CONTRACT BONDS.....	18
2-5 PLANS AND SPECIFICATIONS	18
2-7 SUBSURFACE DATA	21
2-9 SURVEYING	21
2-11 INSPECTION	23
2-13 TECHNICAL STUDIES AND DATA.....	23
SECTION 3 - CHANGES IN WORK	25
3-3 EXTRA WORK	25
3-4 CHANGED CONDITIONS	27
3-5 DISPUTED WORK	27
SECTION 4 - CONTROL OF MATERIALS	32
4-1 MATERIALS AND WORKMANSHIP	32
SECTION 5 – UTILITIES.....	36
5-1 LOCATION	36
5-5 DELAYS	36
5-7 COORDINATION.....	36
SECTION 6 – PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK.....	38
6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK	38
6-2 PROSECUTION OF THE WORK.....	40
6-6 DELAYS AND EXTENSIONS OF TIME	40
6-7 TIME OF COMPLETION	41
6-8 COMPLETION, ACCEPTANCE, AND WARRANTY	42
6-9 LIQUIDATED DAMAGES	45
6-10 USE OF IMPROVEMENT DURING CONSTRUCTION.....	45
6-11 RIGHT TO AUDIT.....	45
SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR.....	47

7-1	THE CONTRACTOR'S EQUIPMENT AND FACILITIES	47
7-2	LABOR	47
7-3	LIABILITY INSURANCE	50
7-4	LICENSING	55
7-5	PERMITS	56
7-6	THE CONTRACTOR'S REPRESENTATIVE.....	56
7-7	COOPERATION AND COLLATERAL WORK	57
7-8	WORK SITE MAINTENANCE	58
7-9	PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS	66
7-10	SAFETY	68
7-15	PROJECT SIGNS.....	72
7-16	RECORD DRAWINGS	73
7-17	NOTIFICATION AND COORDINATION.....	74
7-18	ENVIRONMENTAL MITIGATION MEASURES.....	75
SECTION 8 – FACILITIES FOR AGENCY PERSONNEL.....		81
8-1	GENERAL	81
SECTION 9 - MEASUREMENT AND PAYMENT		82
9-1	MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK	82
9-2	LUMP SUM WORK	82
9-3	PAYMENT	82
9-4	WAIVER OF CLAIMS	89
PART 2 CONSTRUCTION MATERIALS.....		91
SECTION 200 - ROCK MATERIALS		91
200-1	ROCK PRODUCTS.....	91
200-2	UNTREATED BASE MATERIALS.....	91
SECTION 201 - CONCRETE, MORTAR AND RELATED MATERIALS.....		94
201-2	REINFORCEMENT FOR CONCRETE.....	94
201-3	EXPANSION JOINT FILLER AND JOINT SEALANTS.....	95
201-7	NON-MASONRY GROUT	95
201-10	VAPOR BARRIER.....	95
SECTION 202 - MASONRY MATERIALS.....		97
202-2	CONCRETE BLOCK	97
202-3	MORTAR, GROUT, AND WATER.....	97
202-4	INTERLOCKING CONCRETE PAVERS.....	97
202-5	VENEER STONE AND DECORATIVE CAPS.....	97
SECTION 203 - BITUMINOUS MATERIALS.....		99
203-1	PAVING ASPHALT.....	99
203-6	ASPHALT CONCRETE	99
203-14	TIRE RUBBER MODIFIED ASPHALT CONCRETE (TRMAC)	100
SECTION 204 - LUMBER AND TREATMENT WITH PRESERVATIVES		101
204-1	Lumber and Plywood.....	101
204-3	COMPOSITE LUMBER	101

SECTION 206 - MISCELLANEOUS METAL ITEMS.....	102
206-6 CHAIN LINK FENCE	102
206-7 STORM DRAIN INLET MARKERS.....	102
206-8 SKATE STOPPERS	102
206-9 VANDAL RESISTANT ANCHORS, SCREWS, NUTS.....	103
206-10 WEATHERING STEEL FOR RAILINGS AND STRUCTURES.....	103
206-11 SIGN POSTS	104
SECTION 207 - GRAVITY PIPE	105
207-2 REINFORCED CONCRETE PIPE (RCP).....	105
207-5 PVC PERFORATED PIPE	105
207-15 ABS SOLID WALL PIPE.....	105
207-17 PVC GRAVITY PIPE	105
SECTION 208 – PIPE JOINT TYPES AND MATERIALS	106
208-3 GASKETS FOR CONCRETE PIPE.....	106
SECTION 209 – PRESSURE PIPE	107
209-4 PVC PRESSURE PIPE	107
209-7 PIPELINE IDENTIFICATION.....	107
SECTION 210 - PAINT AND PROTECTIVE COATINGS.....	108
210-6 ANTI-GRAFFITTI COATINGS	108
SECTION 211 – MATERIAL TESTS.....	109
211-1 COMPACTION TESTS.....	109
SECTION 212 – WATER AND SEWER SYSTEM VALVES AND APPURTENACES	110
212-5 VALVES	110
212-6 HYDRANTS.....	110
SECTION 213 – ENGINEERING GEOSYNTHETICS	111
213-4 PAVING FABRIC.....	111
213-5 GEOTEXTILES AND GEOGRIDS.....	112
SECTION 214 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS	113
214-4 PAINT FOR STRIPING AND MARKINGS.....	113
214-5 THERMOPLASTIC MATERIAL FOR TRAFFIC STRIPING AND MARKINGS.	113
SECTION 215 – SITE FURNISHINGS	114
215-1 ROADWAY AND SIDEWALK FURNISHINGS	114
215-2 PARK FACILITY FURNISHINGS	114
SECTION 217 – BEDDING AND BACKFILL MATERIALS	168
217-1 BEDDING MATERIAL	168
217-2 TRENCH BACKFILL.....	168
SECTION 218 – PREFABRICATED RESTROOM BUILDING AND DISC GOLF CONCESSION BUILDING	169

218-1	GENERAL	169
218-2	PREFABRICATED BUILDING SUBCONTRACTOR RESPONSIBILITY	170
218-3	GENERAL CONTRACTOR RESPONSIBILITY	172
218-4	PREFABRICATED BUILDING COMPONENTS	173
218-5	SHIPPING PROTECTION	179
218-6	CERTIFICATIONS	179
218-7	FURNITURE, FIXTURES, AND EQUIPMENT	179
218-8	PAYMENT	179
PART 3 CONSTRUCTION METHODS.....		180
SECTION 300 - EARTHWORK		180
300-1	CLEARING AND GRUBBING	180
300-2	UNCLASSIFIED EXCAVATION	181
300-3	STRUCTURE EXCAVATION AND BACKFILL	181
300-4	UNCLASSIFIED FILL	182
300-7	EARTHWORK FOR CHANNELS	182
300-8	GEOTEXTILES FOR DRAINAGE	182
300-9	GEOTEXTILES FOR EROSION CONTROL	183
300-10	GEOTEXTILES FOR SEPARATION	183
300-11	STONEWORK FOR EROSION CONTROL	183
SECTION 301 – TREATED SOILS, SUBGRADE PREPARATION, TREATED MATERIALS, AND PLACEMENT OF BASE MATERIALS.....		185
301-1	SUBGRADE PREPARATION.....	185
301-2	UNTREATED BASE	186
301-6	PERMEABLE BASE	186
SECTION 302 - ROADWAY SURFACING.....		187
302-5	ASPHALT CONCRETE PAVEMENT	187
302-7	PAVEMENT FABRIC.....	190
302-12	TIRE RUBBER MODIFIED ASPHALT CONCRETE (TRMAC)	192
SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION		193
303-1	CONCRETE STRUCTURES	193
303-4	MASONRY CONSTRUCTION.....	197
303-5	CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS AND DRIVEWAYS	197
303-6	STAMPED CONCRETE	202
303-7	COLORLED CONCRETE.....	202
303-9	EXPOSED AGGREGATE CONCRETE	203
303-10	DECORATIVE CONCRETE ENGRAVING.....	204
SECTION 304 - METAL FABRICATION AND CONSTRUCTION		206
304-3	CHAIN LINK FENCE	206
304-5	STEEL PIPE AND TUBE CONSTRUCTION	206
304-6	PEDESTRIAN PROTECTIVE RAILING	208
SECTION 305 - PILE DRIVING AND TIMBER CONSTRUCTION		209
305-2	TIMBER STRUCTURES AND TIMBER CONSTRUCTION.....	209

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION	210
306-7 PREFABRICATED GRAVITY PIPE.....	210
306-8 PREFABRICATED PRESSURE PIPE.....	210
306-12 BACKFILL	211
306-15 PAYMENT	211
306-16 SUB-SURFACE DRAINS (FRENCH DRAIN).....	213
SECTION 314 - TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS	215
314-1 GENERAL	215
314-2 REMOVAL OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS	215
314-4 APPLICATION OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS	216
314-5 PAVEMENT MARKERS.....	217
314-6 TEMPORARY STRIPING AND MARKERS.....	217
314-7 TRAFFIC SIGNS	218
SECTION 315 – SITE FURNISHINGS	219
315-1 GENERAL	219
315-2 MEASUREMENT AND PAYMENT.....	219
PART 6 - TEMPORARY TRAFFIC CONTROL	225
SECTION 600 - ACCESS	225
600-2 VEHICULAR ACCESS	225
600-3 PEDESTRIAN ACCESS.....	225
SECTION 601 - WORK AREA TRAFFIC CONTROL	226
601-1 GENERAL	226
601-2 TRAFFIC CONTROL PLAN (TCP).....	226
601-3 PAYMENT	231
PART 7 – ELECTRICAL AND LIGHTING SYSTEMS	232
SECTION 700 - MATERIALS.....	232
700-3 COMMON COMPONENTS	232
700-4 PARK LIGHTING SYSTEM MATERIALS.....	233
SECTION 701 - CONSTRUCTION.....	236
701-19 PAINTING AND GALVANIZING	236
SECTION 702 - PAYMENT	237
702-1 SITE ELECTRICAL SYSTEM.....	237
702-2 LIGHTING	237
PART 8 - LANDSCAPING AND IRRIGATION	238
SECTION 800 – MATERIALS	238
800-1 LANDSCAPING MATERIALS	238
800-2 IRRIGATION SYSTEM MATERIALS.....	248

800-3	ELECTRICAL MATERIALS	254
SECTION 801 - INSTALLATION		258
801-2	EARTHWORK AND TOPSOIL PLACEMENT	258
801-3	BIORETENTION SOIL MEDIA	260
801-4	PLANTING	268
801-5	IRRIGATION SYSTEM INSTALLATION	270
801-6	LANDSCAPE ROCK AND DECORATIVE SURFACING.....	274
801-7	TREE PROTECTION AND PRUNING	276
801-8	MAINTENANCE AND PLANT ESTABLISHMENT.....	279
801-9	MEASUREMENT.....	282
801-10	PAYMENT	282
CONTRACT EXHIBITS		285
BID SUBMITTAL PACKAGE		286
BID SCHEDULE.....		290
SIGNATURE SHEET.....		297
BID BOND.....		299
INFORMATION REQUIRED OF BIDDER		303
DESIGNATION OF SUBCONTRACTORS.....		305
PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION..		308
GUARANTEE.....		309
NON-COLLUSION AFFIDAVIT / DECLARATION		310
SAMPLE CONTRACT DOCUMENTS		312
AGREEMENT.....		313
BID SCHEDULE.....		314
PERFORMANCE BOND		319
PAYMENT BOND (LABOR AND MATERIALS)		323
WORKERS' COMPENSATION INSURANCE DECLARATION		326

**CITY OF SANTEE
STATE OF CALIFORNIA**

NOTICE INVITING SEALED BIDS

The City of Santee, City, invites sealed bids for:

**MAST PARK IMPROVEMENTS
CIP 2008-53**

Sealed bids will be received at the Office of City Clerk, City of Santee, 10601 Magnolia Avenue, Building 3, until **10:00 a.m. on Thursday, August 16, 2018** at which time they will be publicly opened and read aloud at said office. Any bidder who fails to submit its documentation by the above date and time shall have that Bid rejected and returned unopened.

Work to be done includes the furnishing of all labor, materials and equipment necessary for the installation of stabilized disintegrated granite walkways, concrete pathways, lodge pole fencing, chain link fencing, chain link gates, decorative metal railing, retaining walls, steel gates, prefabricated restroom building, including plumbing, prefabricated disc golf concession building, earthwork grading, landscape planting, landscape irrigation, site amenities, parking lot paving, asphalt resurfacing, drainage improvements, concrete sidewalks, concrete mow curb, exposed aggregate surfacing, shade shelter installation, playground installation, safety surfacing, subdrainage, private roadway signing and striping, driveway installation, infiltration basin installation, hydrodynamic separator, fire service installation, water, sewer, electrical, and communications utilities, and all related and necessary work as defined in the contract documents.

Contract Documents, including Plans, Specifications and Proposal Forms, may be examined and/or downloaded on the City's website at www.cityofsanteeca.gov.

Contract Documents may also be examined at the City Clerk's Office, 10601 Magnolia Avenue, Building 3, Santee, CA 92071-1266. All bidders shall notify the City of Santee to be added to the bidder's list if plans and specifications are downloaded from the City's website in order to receive any addendums to the contract documents.

A prebid meeting has been scheduled for **10:00 a.m. on Wednesday, July 25, 2018** at the City Council Chambers, Building 2, 10601 Magnolia Avenue, Santee, CA 92071

Each bid must conform and be responsive to the Contract Documents and all plans, specifications and proposal forms described above.

Each bid must be submitted in a sealed envelope bearing on the outside the name of bidder, the bidder's address, the name of the project for which the bid is submitted and the appropriate State Contractor's License designation held by the bidder. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to the City Clerk, City of Santee, 10601 Magnolia Avenue, Building 3, Santee, CA 92071-1266.

Bid Guarantee / Bid Bond:

Each bidder must submit a proposal to the City Clerk on standard forms available in the Office of the Director of Development Services. Said proposal is to be accompanied by a certified or cashier's check, cash deposit, or a bidder's bond made payable to the City of Santee, in an amount not less than 10 percent (10%) of the total bid submitted.

Contractor Registration:

All Contractors and Subcontractors bidding on Public Works projects shall be registered with the Department of Industrial Relations and pay all required registration and annual renewal fees in order to be qualified to bid on Public Works projects pursuant to Section 1725.5 of the Labor Code.

The Contractor and all Subcontractors shall be registered with the Department of Industrial Relations as a qualified Contractor to perform work on Public Works projects. Any listed and or unlisted Subcontractor working for a Public Works project shall be replaced by the Contractor immediately upon notice by the City or Contractor. The Contractor shall be responsible for any costs associated with the replacement of a Subcontractor for failure to be registered with the Department of Industrial Relations as a qualified Contractor to perform work on a Public Works project.

Any bid submitted by an unregistered bidder at the time of bid opening shall be deemed a non-responsible bid and their bid shall be rejected.

License Requirements:

The Successful Bidder shall possess, pursuant to Section 7028.15 of the Business and Professions Code and Section 3300 of the Public Contract Code, all bidders must possess proper licenses for performance of this Contract at the time of submitting their bid. Contractors shall possess the following State of California Contractor's licenses, or such other licenses as may be allowed by law, at the time of bid submission in order to perform the work: **Class "A"**.

Subcontractors must possess the appropriate licenses for each specialty work subcontracted. Contractors who are ineligible to perform work on a public works project pursuant to Section 1777.1 or Section 1777.7 of the Labor Code are prohibited from bidding on this Project.

Prevailing Wages:

Bidders are advised that this Contract is a Public Work for purposes of the California Labor Code, which requires payment of prevailing wages. This project is subject to compliance monitoring and enforcement by the State of California, Department of Industrial Relations.

The City has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this work is to be performed for each craft, classification or type of worker needed to execute the contract. These per diem rates, including holiday and overtime work, as well as employer payments for health and

welfare, pension, vacation, and similar purposes are on file at the Office of the Director of Development Services, and also available from the Director of the Department of Industrial Relations. These per diem rates will be made available to any interested party upon request. Each Contractor to whom a Contract is awarded and every Subcontractor must pay the prevailing rates, post copies thereof at the job site and otherwise comply with applicable provisions of state law.

It shall be mandatory upon the bidder to whom the Contract is awarded, and upon any Subcontractor under him, to comply with all Labor Code provisions, which include, but are not limited to the payment of not less than the said specified rates to all workers employed by them in the execution of the Contract, employment of apprentices, retention of payroll records, hours of labor and debarment of Contractors and Subcontractors.

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. In bidding on this project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this contract and applicable law in its bid.

Employment of Apprentices

The California Labor Code requires the contractor and any subcontractors to employ registered apprentices on public works projects pursuant to Section 1777.5.

Standardized Products, Things, or Services:

Pursuant to Public Contract Code Section 3400(b) the City may make a finding that is described in the invitation for bids that designates certain products, things, or services by specific brand or trade name for the statutorily enumerated purposes. As required by section 3400(b) and Section 3400(c) the City has made such findings as further described in the Special Conditions. These findings, as well as the products and their specific brand or trade names that must be used for the Project may be found within the Special Provisions.

Interest In More Than One Bid:

No bidder shall be allowed to make, submit or be interested in more than one bid. However, a person, firm, corporation or other entity that has submitted a sub-proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders submitting a bid to the City.

Changes to Bid Invitation:

Any material changes, additions, or deletions to the bid invitation within 72-hours of the date and time for opening of bids described herein shall result in an extension of time for the submission of such bids by no less than 72-hours.

Rejection of Bids:

The City Council reserves the right to reject any or all bids and to waive any informality or irregularity in any bid received and to be the sole judge of the merits of the respective bids received. The award, if made, will be made to the lowest responsive and responsible bidder.

Award of Contract:


The City shall determine the lowest bid as the Contractor submitting the lowest bid as defined in the Bid Schedule for the "**Base Bid**" and is deemed responsive and responsible. Award of the base bid and any alternates for the project shall be based upon funds available.

Contract Bonds:

The Successful Bidder will be required to furnish a Performance Bond in the amount of one hundred percent (100%) of the Total Bid Price, and a Payment (Material and Labor) Bond in the amount of one hundred percent (100%) of the Total Bid Price, on the forms provided and in the manner described in the Bid Documents. The Bid Bond will be forfeited should the bidder to whom the Contract is awarded fail to enter into the Contract and provide the required Performance and Payment Bonds and Certificate(s) of Insurance within ten (10) calendar days after the date of receipt of Notice of Award of the Contract pursuant to the terms of said Bid Bond.

Monies Withheld by the City to ensure performance under the contract may be released in accordance with Public Contract Code 22300 and these Contract Documents. Pursuant to Public Contract Code Section 22300, for monies earned by the Contractor and withheld by the City of Santee to ensure the performance of the Contract, the Contractor, may, at its option, choose to substitute securities meeting the requirements of said Public Contract Code Section 22300.

No bidder may withdraw his bid for a period sixty (60) calendar days after the date set for the opening of bids.



Steven Miller, P.E.
Senior Civil Engineer
City of Santee, California

The City of Santee complies with the Americans with Disabilities Act. If you require reasonable accommodations for the pre-bid conference or bid opening, please contact the Office of the City Clerk, (619) 258-4100, at least 48 hours prior to the meeting.

CITY OF SANTEE

MAST PARK IMPROVEMENTS CIP 2008-53

INFORMATION FOR BIDDERS

PREPARATION OF PROPOSAL FORMS

1. **Preparation:** The City invites proposals, on the forms attached under "Bid Submittal Package," to be submitted until the time and at the place set for the opening of bids in the published "Notice to Contractors." Proposals not presented on forms so furnished will be disregarded. All bids must be under sealed cover. The City will not accept any bids or bid modifications submitted by facsimile or electronic mail transmission.

The Proposal forms are contained herein, together with the Notice to Contractors, Agreement and Special Provisions. The Proposal forms within these documents may be detached therefrom. The Proposal shall set forth the unit price bid clearly in legible figures, in the respective space provided in the Bid Schedule, and shall be signed by the bidder, who shall fill out all blanks in the Proposal forms as therein required.

In case of discrepancy between the unit price and the total set forth for the item, the written unit price shall prevail, provided, however, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or in the case where the unit price is the same as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

- A. As to the lump sum items, the amount set forth in the "Total" column shall be the unit price.
- B. As to the unit price items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

Any error in the addition of the amounts constituting the items of the Bid Schedule will be corrected and such corrected total(s) shall be used to determine the successful bidder. All prices or sums shall include all sales and other taxes which may be applicable.

The Proposal must be executed in accordance with these instructions and the instructions contained on the forms provided. If the bidder is an individual or a partner, the signature on the Proposal and the Bid Bond must be the same as the name of the bidder shown on other parts of these forms. (Showing the name as "J.E. Doe" and the signature as "John E. Doe" may be considered as an irregularity.)

2. **Ethics in Bidding:** The City expects the bidders to maintain high ethical standards in engaging in the competitive bidding process. The bid amount of one bidder should not be divulged to another before the award of the subcontract or order, nor should it be used by bidders to secure a lower proposal from another bidder on that project (bid shopping). Subcontractors or Suppliers should not request information for the bidder regarding any sub-bid in order to submit a lower proposal on that project (bid peddling). The City will consider any bidder found to be engaging in such practices to be a non-responsible bidder and may reject its bid on that ground.
3. **Modifications on the Submitted Proposal:** Modifications, changes or additions to the Proposal may be considered an irregularity. Erasures, interlineations, or corrections in preparing the bids must be initialed by the person(s) signing the Proposal in the margin immediately opposite the correction. Alternate proposals will not be considered unless called for.
4. **The Award of the Contract:** If made by the City, will be as specified in the Notice to Contractors Inviting Bids.
5. **No Telephone Availability:** Bidders are advised that on bid date telephones will not be available at the City Administrative Offices for use by bidders or their representatives.
6. **Bid Guarantee:** Each bid shall be accompanied by cash, a certified or cashier's check, or a bidder's bond in the amount of not less than 10 percent of the maximum amount of the bid; the check or bond made payable to the order of the City of Santee. Said check or bond shall be given as a guarantee that the bidder will, within ten (10) days after being requested to do so by the City, enter into a contract and provide the required bonds and insurance contracts if awarded the work; if the bidder to whom the work has been awarded and to whom the request has been made refuses or fails to enter into said contract and provide the required bonds and insurance contracts within the specified time, the check shall be forfeited to the City or the Contractor and surety on the bond shall be liable to the City for the amount thereof in accordance with its terms. When the lowest responsible bidder executes and delivers to the City the required contract documents, the bid bond or the certified or cashier's check will be returned to the bidder.
7. **Disqualification of Bidders:** A bidder shall be considered disqualified for any of the following reasons:
 - (a) Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
 - (b) Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the City until any such participating bidder has been reinstated by the City as a qualified bidder.

A person, firm or corporation may submit a sub proposal to more than one bidder, or may submit sub proposals in addition to submitting a proposal as bidder, without being disqualified.

8. **Relief of Bidder:** If the bidder claims a mistake was made in his bid, the bidder shall give the City written notice within five (5) days after the opening of bids of the alleged mistake, specifying in the notice in detail how the mistake occurred.
9. **Withdrawal or Revision of Proposals:** A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal, provided that the bidder's request for withdrawal is received at the Office of the City Clerk in writing before the time specified for opening bids. Revised proposals must be submitted as specified herein. The request for withdrawal shall be executed by the bidder or by his duly authorized representative. Proposals that are received after the time specified for opening bids shall be returned to the bidder unopened. After the scheduled closing time for receipt of bids, a bidder may not withdraw its bid until the expiration of sixty (60) calendar days, after which time a bid may be withdrawn only in writing and in advance of actual award of the Contract.
10. **Rejection of Proposals:** Proposals may be rejected if they show any alteration of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.

The City reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in its best interest and conforms to local laws and ordinance pertaining to the letting of construction contracts.

When a proposal is signed by an agent other than the officer or officers of a corporation authorized to sign contracts on its behalf, or a general partner of a partnership, a "Power of Attorney" must be on file with the City Clerk prior to opening bids or shall be submitted with the proposal.

11. **Filing of Bid Protests:** Bidders may file a "protest" of a Bid with the City of Santee. In order for a bidder's protest to be considered valid, the protest must:
 - A. Be filed in writing within five (5) calendar days after the bid opening date to the Office of the City Clerk;
 - B. Clearly identify the specific irregularity or accusation;
 - C. Clearly identify the specific City of Santee staff determination or recommendation being protested;
 - D. Specify, in detail, the grounds of the protest and the facts supporting the protest; and
 - E. Include all relevant, supporting documentation with the protest at time of filing.

If the protest does not comply with each of these requirements, it will be rejected as invalid.

If the protest is valid, the City of Santee, shall review the basis of the protest and all relevant information. The City of Santee will provide a written decision to the protestor. The protestor may then appeal the decision to the City of Santee.

- 12. Bid Deposit Return:** The City will return the security accompanying the bids of all unsuccessful bidders no later than sixty (60) calendar days after award of the Contract.
- 13. Interpretation of Plans and Documents:** If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part of the drawings, specifications, or other Contract Documents, or finds discrepancies in, or omissions from the drawings and specifications, that person may submit to the City a written request for an interpretation or correction thereof. Such submittal shall be submitted in writing no later than 5:00 p.m. 7 calendar days prior to the bid opening to the City Representative listed below:

Steven Miller, P.E.
Senior Civil Engineer
City of Santee
smiller@cityofsanteeca.gov

It shall be the bidder's responsibility to ensure receipt of all emails. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Specifications which, if issued, will be emailed to all registered bidders and posted on the City's website at www.cityofsanteeca.gov. All addenda so issued shall become part of the Contract Documents. It shall be the bidder's responsibility to ensure receipt of all emails and/or faxes. Bidders shall notify the City's representative in writing in order to be listed as a registered bidder and posted on the plan holders list which is available for review on the City's website. The person submitting the request will be responsible for its prompt delivery. In the event that an addendum or bulletin, setting forth material changes, additions or deletions is issued when there is 72 hours or less to the bid deadline, the City will extend the bidding deadline by at least 72 hours. No person is authorized to make any oral interpretation of any provision in the Contract Documents to any bidder, and no bidder is authorized to rely on any such unauthorized oral interpretation.

14. Request For Substitutions:

- a. For purposes of this provision the term "substitution" shall mean the substitution of any material, process or article that is substantially equal or better in every respect to that so indicated or specified in the specifications.
- b. Pursuant to Public Contract Code Section 3400 (c) the City may make a finding that is described in the invitation for bids that designates certain products, things, or services by specific brand or trade name for the statutorily enumerated purposes. As required by section 3400 (c) the City has made such findings as further described in the Special Conditions. These findings, as well as the products and their specific brand or trade names that must be used for the Project may be found in Section 200 of the Special Conditions.
- c. Unless specifically designated in Section 200 of the Special Conditions, whenever in specifications any material, process, or article is indicated or specified by grade, patent, or proprietary name or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating

- the description of the material, process or article desired and shall be deemed to be followed by words "or equal." Bidders may, unless otherwise stated, offer for substitution any material, process or article which shall be substantially equal or better in every respect to that so indicated or specified. However, the City has adopted certain uniform standards for certain materials, processes and articles. If any material, process or article offered for substitution by bidders is not, in the opinion of the City, substantially equal or better in every respect to that specified, bidders shall furnish the material, process or article specified. The burden of proof as to the equality of any material, process or article shall rest with the bidders.
- d. Bidders shall submit requests together with substantiating data for substitution of any "or equal" material, process or article no later than **5:00 p.m. 7 calendar days prior to the bid opening**. Provisions authorizing submission of "or equal" substitution justification data shall not in any way authorize an extension of time for performance of this Contract. Furthermore, if a proposed "or equal" substitution request is rejected, a bidder shall be responsible for including the specified material, process or article in its bid. The City shall not be responsible for any costs of bidders associated with "or equal" substitution requests. The City has the complete and sole discretion to determine if a material, process or article is an "or equal" material, process or article that may be substituted.
- e. For purposes of subdivision (d) above, data required to substantiate requests for substitutions of an "or equal" material, process or article data shall include a signed affidavit from the bidder stating that the substituted "or equal" material, process or article is equivalent to that specified in the specification in every way except as listed on the affidavit. Substantiating data shall also include any and all illustrations, specifications, and other relevant data including catalogue information which describes the requested substituted "or equal" material, process or article and substantiates that it is an "or equal" to the material process or article specified. In addition, the submittal documentation must also include a statement of the cost implications of the substitution being requested stating whether and why the substitution of the "or equal" material, process or article will reduce or increase the Contract Price. The substantiating data must also include information regarding the durability and lifecycle cost of the requested substituted "or equal" material, process or article. Failure to submit all the needed substantiating data, including the signed affidavit, to the City Representative in a timely fashion so that the substitution can be adequately reviewed may result in the rejection of the proposed substitution. The City Representative is not obligated to review multiple substitution submittals for the same product or item due to the bidder's failure to submit a complete package initially.
- f. Time limitations in this Article must be complied with strictly and in no case will an extension of time for completion be granted because of bidder's failure to request the substitution of an alternative item at the times and manner set forth herein in subdivision (d). Further, the bidder shall bear the costs of all Engineering work associated with the review of submittals for substitution of equals.

- g. In event the Contractor furnishes material, process, or article more expensive than that specified, the difference in cost of such material, process, or article so furnished shall be borne by Contractor.

- 15. Evidence of Responsibility:** If bidders were not required to pre-qualify prior to being allowed to bid on the Project, the following information will be required to accompany bids submitted to the City:

Each bid shall be supported by a statement of the bidder's experience as of recent date on the form entitled "INFORMATION REQUIRED OF BIDDER," bound herein. City may also consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the work. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by the City. In this regard, the City may conduct such investigations as the City deems necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications and financial ability of the bidder, proposed Subcontractors, and other persons and organizations to do the work in accordance with the Contract Documents to the City's satisfaction within the prescribed time; the City reserves the right to reject the bid of any bidder who does not pass any such evaluation to the satisfaction of the City.

- 16. Signing of Bids:** All Bids submitted shall be signed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of its Board of Directors or a Power of Attorney evidencing the capacity of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom. If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venturer or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; and (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the Bid and under any Contract arising therefrom. The Bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

- 17. Contractor's License:** To perform the work required for this Project, bidders must possess the appropriate Contractor's License for the portion of the work bid upon, and bidders must maintain the license throughout the duration of the Contract. If, at the time the bids are opened, bidder is not licensed to perform the Project in accordance with division 3, chapter 9 of the Business and Professions Code of the State of California and the Notice to Contractors Calling for Bids, the bid will not be considered.

- 18. Notarization of Documents:** Bidders are hereby informed that failure to notarize all Proposal forms contained herein, for which notarization is required, may result

in rejection of the bidder's Proposal on the basis that bidder's Proposal is not responsive to these Contract Documents.

- 19. Contract and Bonds:** Contractor, will be required to execute, and the form of the Performance Bond equal to one hundred percent (100%) of the successful bid, and Payment Bond equal to one hundred percent (100%) of the successful bid which the bidder will be required to furnish at the time of execution of the Contract, are included in the Contract Documents and should be carefully examined by the bidder. The required number of executed copies of the Contract, the Performance Bond, and the Payment Bond for Public Works is as specified in the Special Provisions. The Performance and Payment Bonds must be executed by an admitted Surety approved to conduct business in the State of California, pursuant to California Code of Civil Procedure Section 995.120. In addition, to the extent required by law, the Payment and Performance Bonds must be accompanied by a certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner of the State of California, a certificate from the Clerk of the County of San Diego that the certificate of authority of the insurer has not been surrendered, revoked, cancelled, annulled, or suspended, or if it has that it has been renewed, and four copies of the insurer's most recent annual statement and quarterly statement filed with the Department of Insurance of the State of California.
- 20. Substitution of Security:** The Contract Documents call for monthly progress payments based upon the percentage of the work completed. The City will retain in accordance to Section 9-3.2. At the request and expense of the successful bidder, the City will substitute securities for the amount so retained in accordance with Public Contract Code section 22300 and the Contract Documents.
- 21. Non-Collusion Affidavit:** Bidders on all public works contracts are required to submit an affidavit of Non-Collusion with their bid. This form is included with the bid package and must be signed under the penalty of perjury and dated.
- 22. Insurance:** Prior to commencement of the work the successful bidder shall purchase and maintain insurance as set forth in the Standard Specifications for Public Works Construction, and in the amounts specified in Section 7-3 of the Special Provisions to these Contract Documents, and in a form acceptable to the City. The successful bidder shall be required to file with the City certificates of such insurance, and shall name, by way of endorsement on any policy of insurance, the City and City Representative(s) as additionally insured. Failure to furnish such evidence of insurance may be considered default by the successful bidder.
- 23. Workers' Compensation:** In accordance with the provisions of Section 3700 of the Labor Code, Contractor shall secure the payment of compensation to his employees. Contractor shall sign and file with the City the following certificate prior to performing the work under this Contract:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the

provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

The form of such certificate, Contractors Certificate Regarding Workers Compensation, is included as part of the Contract Documents.

- 24. Prevailing Wages:** Bidders are advised that this Contract is a public work for purposes of the California Labor Code, which requires payment of prevailing wages. City has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work. These rates will be on file at the Office of the Director of Development Services and they will be made available to any interested party upon request. Each Contractor to whom a Contract is awarded and every Subcontractor must pay the prevailing rates, post copies thereof at the job site and otherwise comply with applicable provisions of state law.

It shall be mandatory upon the bidder to whom the Contract is awarded, and upon any Subcontractor under him, to comply with all Labor Code provisions, which include, but are not limited to the payment of not less than the said specified rates to all workers employed by them in the execution of the Contract, employment of apprentices, retention of payroll records, hours of labor and debarment of Contractors and Subcontractors.

- 25. Designation of Subcontractor(s):** Each bidder shall set forth on the form provided herein, and submit with its sealed bid at the time bids are due the name and address of the place of business of each Subcontractor who will perform work, labor, furnish materials, or render service to the bidder on said Contract in excess of one-half (1/2) of one percent (1%) of the total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime Contractor's total bid or ten thousand dollars (\$10,000), whichever is greater.
- 26. Public Works Contractor Registration Certification:** Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project. To this end, Bidder shall sign and submit with its Bid the Public Works Contractor Registration Certification on the form provided, attesting to the facts contained therein. Failure to submit this form may render the Bid non-responsive. In addition, each Bidder shall provide the registration number for each listed subcontractor in the space provided in the Designation of Subcontractors Form.
- 27. Debarment of Contractors and Subcontractors:** In accordance with the provisions of the California Labor Code, Contractors or Subcontractors may not perform work on a public works project with a Subcontractor who is ineligible to

perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the California Labor Code. Any contract on a public works project entered into between a Contractor and a debarred Subcontractor is void as a matter of law. A debarred Subcontractor may not receive any public money for performing work as a Subcontractor on a public works contract. Any public money that is paid, or may have been paid to a debarred Subcontractor by a contract on the Project shall be returned to the City. The successful bidder, as Contractor, shall be responsible for the payment of wages to workers of a debarred Subcontractor who has been allowed to work on the Project.

- 28. Anti-Discrimination:** It is the policy of the City that in connection with all work performed under contracts, there be no discrimination against any prospective or active employees engaged in the work because of race, color, ancestry, national origin, religious creed, sex, age or marital status. The successful bidder agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Government Code 12900, and Labor Code 1735. In addition, the successful bidder agrees to require like compliance by any Subcontractors employed on the work by him.
- 29. Additional Requirements:** The bidder's attention is directed to the Special Provisions bound herein for additional requirements of the Proposal and Contract Documents.

SPECIAL PROVISIONS

PREFACE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

The below Standard Specifications, Standard Drawings, Modifications, are hereby made part of the Contract Documents:

STANDARD SPECIFICATIONS:

The Standard Specifications for Public Works Construction “GREENBOOK”, written and promulgated by a mutual benefit corporation comprised of nine members – five representing the American Public Works Association, four from the Associated General Contractors of California, the Engineering Contractors Association, the Southern California Contractors Association and BNi Publications, Inc. shall be the Standard Specifications of the City of Santee. All work shall conform to the 2015 Edition, including supplements, of these Standard Specifications, and the following Modifications.

STANDARD DRAWINGS:

The San Diego Area Regional Standard Drawings, Latest Edition including any modifications made by the City of Santee and included herein.

REFERENCE STANDARDS:

The State of California Department of Transportation Standard Plans, 2015 and The State of California Department of Transportation Standard Specifications, 2015 shall hereinafter be collectively referred to as “Caltrans Standards”.

The California Manual on Uniform Traffic Control Devices, Latest Edition shall hereinafter be collectively referred to as “CA MUTCD”.

For the convenience of the Contractor, the section and subsection numbering system used in these Modifications correspond directly to that used in the “GREENBOOK” 2015 Edition.

PART 1 GENERAL PROVISIONS

Is amended as follows:

SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

1-2 TERMS AND DEFINITIONS

Whenever in the Standard Specifications or the Special Provisions the following terms are used, they shall be understood to mean and refer to the following:

Agency:	City of Santee
Board:	City Council of the City of Santee
City:	City of Santee
Engineer:	City Engineer: <i>Acting either directly or through properly authorized agents, such agents, acting within the scope of the particular responsibilities entrusted to them.</i>
Inspector:	That person or persons designated by the Engineer.

Other terms appearing in the Standard Specifications shall have the Intent and meaning specified therein.

SECTION 2 - SCOPE AND CONTROL OF THE WORK

Is amended as follows:

2-1 AWARD AND EXECUTION OF THE CONTRACT

Add the following subsections:

2-1.1 Examination of Plans, Specifications, and Project Site

The bidders shall satisfy themselves as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed Contract. The submission of a Proposal shall be prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the Work and as to the requirements of the proposed contract Plans and Specifications.

2-1.2 Award of Contract

The City shall determine the lowest bid as the Contractor submitting the lowest bid as defined in the Notice Inviting Bids.

2-1.3 Execution of Contract

The Contract shall be signed by the successful bidder in duplicate and returned, together with the contract bonds and insurance certificates within ten (10) days of receipt of these documents from the City. No contract shall be binding upon the City until the same has been completely executed by the Contractor and approved by the City Attorney, and executed by the City Manager of the City of Santee.

Failure to execute a contract and file acceptable bonds and insurance contracts as provided herein within the time limit above may be just cause for the annulment of the award and the forfeiture of the proposal guaranty.

2-1.4 Request for Information (RFI)

If the Contractor determines the work to be done is not sufficiently detailed or explained in the Contract Documents, they shall submit in writing a request to the Engineer for further explanation.

2-3 SUBCONTRACTS

2-3.2 Self Performance

Delete the first sentence and replace with the following:

The Contractor shall perform with its own organization, Contract work amounting to at least **twenty-five percent (25%)** of the Total Bid.

Add the following paragraph:

For the purpose of evaluating the percentage of work performed by Subcontractors, the cost of all equipment, supplies and materials used or installed on the project by

Subcontractors shall be considered as part of the work of Subcontractors. This will apply even if the Contractor supplies and pays for some or all equipment, supplies or materials used by Subcontractor.

2-4 CONTRACT BONDS

Revise the third paragraph to read:

As part of the execution of this contract, the Contractor shall furnish to the City a bond of a surety company acceptable to the City, in a sum of not less than one hundred percent (100%) of the total contract amount, as the sum set forth in the agreement for payment in full of all persons, companies, or corporations who perform labor upon or furnish material to be used in the work under this contract. Said bond shall be in the form of the Material and Labor Bond contained within these Specifications. The bond shall be maintained by the Contractor in full force and effect until the work is accepted by the City and until all claims for materials and labor are paid.

Revise the fourth paragraph to read:

As a part of the execution of the contract, the Contractor shall furnish to the City a bond payable to the City in the form of a Faithful Performance Bond contained within these Special Provisions. The performance bond shall be secured by a surety company acceptable to the City conditioned upon the faithful performance of all covenants and stipulations under this contract. The amount of the bond shall not be less than one hundred percent (100%) of the total contract amount, as this sum is set forth in the agreement. This Faithful Performance bond shall remain in full force and effect for a period of one year after acceptance of the work by the City Council, such that defects, which appear within said period will be repaired, replaced, or corrected by the Contractor, at his own cost and expense, to the satisfaction of the Engineer within thirty (30) days after written notice thereof by the City.

2.4.1 Payment

Add the following subsection:

Payment for all costs associated with Contract Bonds shall be included in the lump sum unit price bid for “**Mobilization**”.

2-5 PLANS AND SPECIFICATIONS

2-5.3 Submittals

2-5.3.1 General

Add the following:

The Contractor shall prepare and provide a submittal for all materials used in the project unless otherwise approved by the Engineer. Submittals shall be sent via email to the Engineer for review.

Delete the final sentence of this section.

2-5.3.7 Payment

Add the following subsection:

Payment for all costs associated with the preparation of submittals including working drawings, shop drawings, supporting information, installation instructions, preparation of manufacturer's operation, maintenance and Warranties shall be included in the lump sum unit price bid for "**Mobilization**".

2-5.4 Red-lines and Record Documents

2-5.4.1 General

1. Keep, to the satisfaction of the Engineer, accurate, legible, and current records on a set of full size Plans of additions and deletions to the Work, and of changes in location, elevation, and character of the Work not otherwise shown or noted on Contract Documents.
2. Coordinate Red-lines drawings with field measurements, approved Shop Drawings, Working Drawings, samples, product data, and available records. The Contractor must immediately give written notice of any conflicts between these documents to the Engineer.
3. Keep the Red-lines current with entries checked by the Engineer before the Work is buried or covered. Failure by the Contractor to update and deliver Red-lines information monthly to the Engineer for review and approval may result in withholding of monthly progress payments.
4. Note the source identification e.g., RFI numbers and Change Order numbers as required identifying the source of the change to the Contract Documents.
5. Deliver the Red-lines to the Engineer upon completion of the construction work.

2-5.4.2 Asset Specific Red-lines

2-5.4.2.1 Irrigation System Red-lines

Red-lines must clearly record by dimension from 2 known fixed points and by depth of underground facilities all deviations, modifications, and changes in the Work. Record, deviations, modifications, and changes on the day the work is performed; reflect the actual work location(s); record in red and at the scale of the Plan sheet on which they are recorded. Red-lines must show the following equipment locations and associated information:

1. Water Meter - Size, type of water (potable or reclaimed) and water meter address
2. Electrical Meter including meter address
3. Backflow Device - Size, available static pressure in PSI, the PSI and flow in gallons per minutes for which the irrigation system is designed, and device serial number
4. Irrigation Controller - Location, number of stations, identifying call-out.
5. Master Control Valve
6. Flow Sensor
7. Pressure Regulator Valve
8. Isolation Valves

9. Remote Control Valves - Size, irrigation controller, valve station number, and flow demand in gallons per minute
10. Quick Coupling Valves and size
11. Irrigation Mainline and Size
12. Potable Water Mainline and Size
13. Irrigation Lateral Line and Size
14. Irrigation Sleeves and Size
15. Remote Control Valve Wiring
16. Communication Cables
17. Pull Boxes
18. Rain Shut Off Switch
19. Electrical lines from electrical meter to irrigation controller including the power disconnect switch
20. Irrigation sprinkler heads which have been added or deleted from the approved plans. Changes in manufacturer nozzle size must be noted on the red-lined drawings including operating pressure, gallons per minute and radius of throw.

2-5.4.2.2 Utility Red-lines

Utility Red-lines must show the location of:

1. Blow off valves by stationing and offsets.
2. Air vacuum valves by stationing and offsets.
3. Water meter boxes replaced.
4. Locations of all laterals and cleanouts.
5. Items abandoned in place following dewatering operation.

2-5.4.2.3 Building Red-lines

Building Red-lines must show:

1. Location by dimension and the depth by elevation of underground line, valves, plugged tees, and capped ends.
2. By dimension or scale plans, wiring, conduits, and pull boxes as installed.
3. Information necessary to maintain and service concealed items of Work.
4. Dimensional changes to the drawings.
5. Revisions to details shown on drawings.
6. Depths of foundations below first floor.
7. Locations and depths of underground utilities.
8. Revisions to routing of piping and conduits.
9. Revisions to electrical circuitry.
10. Actual equipment locations.
11. Duct size and routing.
12. Locations of concealed internal utilities.
13. Changes made by Change Order.
14. Details not on original Plans.

2-5.4.2.4 Traffic Signals and Street Lighting Red-Lines

For traffic signals and street lighting, provide the Engineer with a cable route diagram

indicating the actual cable route and meter marks for all intersections, directional change points in the cable routing, and all termination points. Record these points during cable installation. Provide cable system Red-lines showing the accurate cable route to the Engineer. Record information such as the location of slack cable and their respective quantity in the cable route diagram.

2-5.4.2.5 Storm Water Pollution Prevention Plan (SWPPP)

Upon completion of construction, Contractor shall submit the SWPPP and all of its appendices, records, reports and maps to the Engineer with the Red-lines.

2-5.4.2.6 Payment

Payment for Red-lines drawings and record documents shall be included in the unit price bid for the various Bid items of work.

2-7 SUBSURFACE DATA

Add the following:

A review of the site soils has been made from the Geotechnical Investigation Report for the Mast Park Improvements Project, prepared by Twining dated August 31, 2016. For further information related to the site soils conditions, this document is available for review as Appendix A.

Site soils conditions are listed below:

Site Class:	D
Soil Type:	Artificial Fill, Young Alluvium, and Friars Formation

2-9 SURVEYING

2-9.1 Permanent Survey Markers

Revise the first paragraph to read:

The Contractor shall take necessary measures to ensure the preservation of survey monuments and bench marks. The Contractor shall not disturb permanent survey monuments without the consent of the Engineer, and shall bear the expense of replacing any that may be disturbed. Surveying and replacement shall be done only by a licensed Land Surveyor or a Civil Engineer qualified to practice Land Surveying. The Contractor shall file a corner record referencing survey monuments subject to disturbance in the Office of the County Surveyor at the completion of construction for the replacement of survey monuments. No additional compensation will be allowed for the resetting of disturbed survey monuments.

Property markers that will be removed as part of the work shall be replaced by a licensed Land Surveyor or a Civil Engineer qualified to practice Land Surveying. A list of property markers are identified in the Contract Exhibits. It is the Contractors responsibility to ensure all property markers that will be removed will be reset.

2-9.2 Survey Service

Delete this section and replace with the following:

The Contractor will perform and be responsible for the accuracy of surveying adequate for construction. If any construction stakes are lost or disturbed and need to be replaced, such replacement shall be by the Contractor. The Contractor shall dig all holes necessary for line and grade stakes.

2-9.3 Private Engineers

Revise this section to read:

Surveying by private Engineers or surveyors on the Work shall conform to the quality and practice required by the Engineer.

2-9.4 Line and Grade

Add the following:

All fencing shown on property lines shall be surveyed to allow for the center fence post to be installed on the property line. Surveyor shall provide written notice to the Engineer that such fence line have been verified they were installed on the property line.

2-9.5 Monument Installation

Add the following subsection:

A brond monument disk shall be installed on a 10" diameter by 36" deep concrete foundation. Foundation shall have smooth broomed finish. Foundation shall be installed 2" above existing grade and be located by the City adjacent to the southern dog park entrance approximately 1' north of the walkway trail.

Monument disk shall be 3-1/2" diameter, domed, bronze and contain concrete anchor as manufactured by Berntsen, Model No. C35DB. Center mark shall contain triangle with cross center symbol. Disk shall be stamped by disk manufacturer with the following:

Outside Row:

Centered at 12 o'clock: "San Diego River Trail"

Centered at 6 o'clock: "City of Santee"

Inside Row:

Centered at 12 o'clock: "Mast Park"

Centered at 6 o'clock: "2019"

After installation monument disc shall be stamped in field with elevation. Monument northing and easting and elevation shall be provided to the City for record purposes.

2-9.6 Payment

Add the following subsection:

Payment for all surveying and construction staking work covered under this section shall be included in the unit price bid for the major items of work unless as specific bid item is otherwise provided in the Bid Proposal and no additional payment shall be made.

Payment for “**Surveying**” shall be made at the contract unit price bid per lump sum. Unit price bid shall include full compensation for furnishing all labor, materials, tools, equipment, surveying, installation of property markers, monuments, and construction stakes, property line verifications and all related incidentals required to complete the work in place.

2-11 INSPECTION

Add the following paragraphs:

The City may utilize field inspectors to assist the Engineer during construction in observing the Contractors performance. Compaction testing and material testing shall be performed in accordance to Section 4.1 and not by the City inspector unless otherwise approved by the Engineer. The contractor shall notify the City field inspector when material and compaction testing will be performed so they may be present during these tests.

The Contractor shall provide access in accordance with Cal-OSHA Standards where necessary. The City has the right, for a reasonable time to stop, or suspend the work to inspect, test or approve a portion of the work with no additional time or compensation provided as a result of the work stoppage or suspension.

Inspection of the Work shall not relieve the Contractor of any of the obligations to fulfill the Contract. Defective work shall be made good and unsuitable materials be rejected, notwithstanding that such defective work and materials have been previously overlooked by the Engineer or included in the quantities for progress payments.

Items of work placed without the benefit of inspection may be required to be removed and replaced at the sole discretion of the Engineer and without additional compensation made therefore.

2-13 TECHNICAL STUDIES AND DATA

Add the following subsection:

Technical studies (e.g., reports and tests) and data may be physically included in the Bid package, referred to in the Special Provisions, or both show conditions as are believed by the City to exist, but it is not to be inferred that all of the conditions as shown thereon actually exist, nor will the City or any of the City's officers be liable for any loss sustained by the Contractor as a result of any variance between conditions indicated in the technical studies and data and the actual conditions revealed during the progress of the Work or otherwise.

The Contractor shall inspect the Site, acquire, and review this information and to take other necessary steps to thoroughly familiarize themselves with the Site conditions. If a

review of the documents and Site inspection indicate a conflict, the Contractor must immediately notify the Engineer.

The Contractor is cautioned that interpretations and conclusions contained in the documents provided by the City were formulated for design purposes only and were based on work performed in such a way as to expressly provide information required for design unless specified otherwise. The Contractor may perform additional exploration at their sole expense.

SECTION 3 - CHANGES IN WORK

Is amended as follows:

3-3 EXTRA WORK

3-3.2 Payment

3-3.2.2 Basis for Establishing Costs

3-3.2.2.1 Labor

Delete last sentence and substitute following:

The total cost of labor for the workers used in the actual and direct performance of the work, whether the employer is the Contractor, Subcontractor, or other forces, will be the sum of the following:

1. Actual Wages: The actual wages paid shall include any employer payments to or on behalf of the workers for health and welfare, pension, vacation, and similar purposes.
2. Labor Surcharge: To the actual wages, as defined in Section 3-3.2.2.1 (1), will be added a labor surcharge set for the in the Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates", which is in effect on the date upon which the work is accomplished and which is a part of the contract. The Labor Surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workers, other than the Actual Wages as defined in Section 3-3.2.2.1 (1).

Non-direct labor costs, including superintendence, shall be considered part of the markup of Section 3-3.2.3.

3-3.2.2.3 Tool and Equipment Rental

Delete this section and replace with the following:

The Contractor shall be paid for the use of equipment at the rental rates listed for such equipment in the State of California "Labor Surcharge and Equipment Rental Rates," which is in effect on the date upon which the work is accomplished regardless of ownership and any rental or other agreement. A rental rate adjustment will only be permitted if the Contractor can substantiate that the rental rate prevailing locally exceeds the published rate by more than 15%.

The rental rates paid as above mentioned shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals.

All equipment shall, in the opinion of the Engineer, be in good working condition and suitable for the purpose for which the equipment is to be used. The Engineer shall approve the necessity for the use of particular equipment for the Extra Work.

Individual pieces of equipment or tools not listed in the "Labor Surcharge and Equipment Rental Rates" publication and having a replacement value of \$500 or less, whether or not consumed by use, shall be considered to be small tools and not payment will be made therefor.

Rental time will not be allowed while equipment is inoperative due to breakdowns. The rental time to be paid for equipment on the work shall be the time that the equipment is in operation on the Extra Work being performed, and in addition, shall include the time required to move the equipment to the location of the Extra Work and return the equipment to its original location or another location requiring no more time than that required to return the equipment to its original location, except that moving time will not be paid for equipment that is currently on site where the Extra Work is being performed. Loading and transport costs will only be allowed in lieu of moving time when the equipment is moved by means other than its own power except that no payment will be made if the equipment is used at the site of the extra work on other than the extra work.

3-3.2.3 Markup

Delete this subsection and substitute following:

The following percentages shall be added to the Contractor's cost and shall constitute full compensation for all delay costs, overhead costs, profit, and other expenses relevant to the extra work.

Labor	20%
Materials	15%
Tools and Equipment Rental	15%
Other Items and Expenditures	15%
Work by Subcontractor	5%
Bonding	(see below)

Work by Subcontractor:

When all or any part of the extra work is performed by a Subcontractor, the markup established in Section 3-3.2.3 shall be applied to the Subcontractor's actual cost of such work. A markup of five percent (5%) on work added of the subcontracted portion of the extra work may be added by the Contractor. The additional markup shall reimburse the Contractor for additional administrative costs, and no other additional payment will be made by reason of performance of the extra work by a Subcontractor.

Bonding:

To the sum of the costs and markups provided for in this section, a reasonable amount shall be added for bonding at the discretion of the Engineer. The Contractor shall provide written documentation to the Engineer demonstrating the current bonding rate for the Contract and in no circumstance shall the amount of compensation for bonding exceed 2.5%.

3-3.3 Daily Reports
Add the following:

Signature of the daily report by the Inspector shall be deemed only as receipt of the daily report by the City, and by no means be considered an approval of any extra work unless previously agreed to by the Engineer in writing.

3-4 CHANGED CONDITIONS

3-4.1 Disallowance of Entitlement
Add the following subsection:

The Contractor will not be entitled to any adjustment in the Contract Price or Contract Time if:

1. The Contractor knew of the existence of such conditions at the time the Contractor made a commitment to the City in respect to Contract Price and Contract times by the submission of a Bid; or
2. The existence of such condition could reasonably have been discovered during the required site investigation, or revealed as a result of any record search, examination, investigation, exploration, test or study of the Site and surrounding areas suggested or required by the Bidding Documents.

3-5 DISPUTED WORK
Add the following subsections:

3-5.1 Claims:

1. Definition of Claim: A "Claim" means a separate demand by the Contractor for (a) time extension, (b) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (c) an amount the payment of which is disputed by the City.
2. Filing Claim is Not Basis to Discontinue Work: The Contractor shall promptly comply with work under the Contract or work requested by the City even though a written claim has been filed. The Contractor and the City shall make good faith efforts to resolve any and all claims that may arise during the performance of the work covered by this Contract.

3-5.2 Procedure for Claims \$375,000 and Under

1. Any formal claim of \$375,000 and under shall be processed as follows in accordance with Public Contract Code section 20104 et. seq.:
 - a. Claims less than \$50,000. For claims less than Fifty Thousand Dollars (\$50,000.00), the City shall respond in writing to any written claim within forty five (45) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or

relating to defenses to the claim that the City may have against the Contractor. If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the City and the Contractor. The written response of the City to the claim, as further documented, shall be submitted to Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by Contractor in producing the additional information, whichever is greater.

- b. Claims in Excess of \$50,000. For claims over Fifty Thousand Dollars (\$50,000.00), and less than or equal to Three Hundred Seventy five Thousand Dollars (\$375,000.00), the City shall respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim that the City may have against the Contractor. If additional information is thereafter required, it shall be requested and provided by mutual agreement of the City and the Contractor. The written response of the City to the claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by Contractor in producing the additional information or requested documentation, whichever is greater.
2. Informal Meet and Confer Conference: If Contractor disputes the written response of the City, or the City fails to respond within the time prescribed, Contractor may so notify the City, in writing, either within fifteen (15) days of receipt of the City's response or within fifteen (15) days of the failure of the City to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the City shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
3. Tort Claim: If following the meet and confer conference the claim or any portion remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of the Title 1 of the California Government Code. For purposes of those provision, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his/her written claim until the time the claim is denied, including any period of time utilized by the meet and confer conference.

3-5.3 Procedures for Civil Actions to Resolve Disputed Claims:

1. Non-binding Mediation: Within sixty (60) days, but no earlier than thirty (30) days, following the filing of a responsive pleading, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation by both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediation, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause shown to the court. If the parties fail to select a mediator within the 15 day period, any party may petition the court to appoint the mediator.

2. Judicial Arbitration: If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the California Code of Civil Procedure, notwithstanding Section 1141.11 of the code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subsection consistent with the rules pertaining to judicial arbitration. Arbitrators shall be experienced in construction law.
3. Appeals: In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of the Code of Civil Procedure), any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees, also pay the attorneys' fees on appeal of the other party.
4. Interest: In any suit filed pursuant to Public Contract Code Section 20104.4, the City shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in the court of law.

3-5.4 Procedure for Claims Over \$375,000:

1. If a dispute in excess of a total value of \$375,000, arises out of, or relates to this Contract, or the breach thereof, and if said dispute cannot be settled through normal contract negotiations, the parties agree that as a condition precedent to the initiation of litigation, the dispute shall first be submitted to mediation pursuant to this Section. The mediation is voluntary, non-binding, and intended to provide an opportunity for the parties to evaluate each other's cases and arrive at a mutually agreeable resolution of the dispute. These provisions relating to voluntary mediation shall not be construed or interpreted as mandatory arbitration.
2. Either party may initiate mediation by notifying the other party or parties in writing. A Request for Mediation shall contain a brief statement of the nature of the dispute or claim, and the names, addresses, and phone numbers of all parties to the dispute or claim, and those, if any, who will represent them in the mediation.
3. The mediation process set forth in this Article shall be administered by the American Arbitration Association (AAA) and governed by their rules in effect at the time of filing, or by any other neutral organization agreed to by the parties (hereinafter called "Administrator").
4. The costs for all mediation, including the administrative fees and mediator compensation, will be shared equally by all parties. Fees shall be jointly negotiated by all parties directly with the Administrator. If all parties agree, then the mediation costs may increase as required for resolution of the dispute. The expenses of witnesses for a party shall be paid by the party producing such witnesses.
5. A single mediator, acceptable to all parties, shall be used to mediate the dispute. The mediator will be knowledgeable in construction matters and will be selected

from lists furnished by the Administrator. The initial mediation session shall commence within thirty (30) days of filing, unless otherwise agreed by the parties, or at the direction of the mediator.

6. At least ten (10) days before the first scheduled mediation session, each party shall provide the mediator a brief memorandum setting forth its position with regard to the issues that need to be resolved. At the discretion of the mediator, such memoranda may be mutually exchanged by the parties. At the first session, the parties will be expected to produce all information reasonably required for the mediator to understand the issue presented. The mediator may require each party to supplement such information.
7. Mediation hearings will be conducted in an informal manner and discovery will not be allowed unless agreed to by all parties. All discussions, statements, or admissions will be confidential to the proceedings and will not be used for any other purpose as they relate to either party's legal position. There shall be no stenographic record of the mediation.
8. Mediation sessions are private. The parties and their representatives may attend mediation sessions. Other persons may attend only with the permission of the parties and with the consent of the mediator. The parties may have an attorney present and shall advise the other parties no less than five (5) working days before the mediation of their intent to have an attorney present, so that the other parties may also have their attorneys present.
9. The mediator does not have authority to impose a settlement on the parties but will attempt to assist the parties in reaching a satisfactory resolution of their dispute. The mediator is authorized to conduct joint and separate meetings with the parties and to make oral and written recommendations for settlement. Whenever necessary, the mediator may also obtain expert advice concerning technical aspects of the dispute, provided the parties agree and assume the expenses of obtaining such advice. Arrangements for obtaining such advice shall be made by the mediator or the parties, as the mediator shall determine.
10. The mediator is authorized to end the mediation whenever, in the mediator's judgment, further efforts at mediation would not contribute to a resolution of the dispute between the parties.
11. Any resultant agreements from mediation shall be documented in writing, as agreed upon during the mediation, and may be used as the basis for a change order or other directive as appropriate. All mediation results and documentation shall be non-binding and inadmissible for any purpose in any legal proceedings, unless such admission is otherwise agreed in writing by all parties. Mediators shall not be subject to any subpoena or liability and their actions shall not be subject to discovery in subsequent proceedings.
12. The Mediation shall be terminated by the execution of a Settlement Agreement by the parties; by a written declaration of the Mediator to the effect that further efforts at Mediation are no longer worthwhile; or by a written declaration of a party or parties to the effect that the Mediation proceedings are terminated.

13. If Mediation is unsuccessful in resolving the dispute, the parties thereafter may agree to submit the matter to the Administrator for binding arbitration. The parties agree that the matter shall be submitted to one (1) arbitrator, unless they agree to three (3) arbitrators in writing. The parties further agree that they will faithfully observe this Contract, and that the parties will abide by and perform any award rendered by the arbitrator(s), that a judgment of a court having competent jurisdiction may be entered upon the award, and that such judgment shall be enforceable as a final judgment to the fullest extent under the law. The parties agree to split evenly all arbitration and arbitrator(s) fees and expenses. The arbitration shall be subject to, and proceed in accordance with California Code of Civil Procedure, section 1280 through 1294.2 if the parties do not agree to submit to binding arbitration, neither party is prevented from pursuing other legal remedies.
14. Any arbitration, mediation or other forms of alternate dispute resolution shall be handled within the boundaries of the City unless otherwise mutually agreed.

3-5.5 Rights and Remedies

The duties and obligations imposed by these Special Provisions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon the Contractor by the Special Provisions and amendments thereto and all of the rights and remedies available to the City thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

3-5.6 Arbitration Award

Pursuant to California Government Code Section 818, the Arbitrator shall have no jurisdiction to award punitive or exemplary damages.

3-5.7 Attorney's Fees and Costs

In the event that any arbitration, action, suit or other proceeding is instituted to enforce any provision of this Contract, and/or to remedy, prevent, or obtain relief from a breach of this Contract, the prevailing party shall be entitled to recover all of its attorney's fees and costs incurred in each and every such arbitration, action, suit or other proceeding, including any and all appeals or petitions therefrom, except as may be provided to the contrary above. As used herein, attorney's fees shall be deemed to mean the full actual costs of any legal services actually performed in connection with the matters involved, calculated on the basis of the usual fees charged by the attorneys performing such services and shall not be limited to "reasonable attorney's fees" as defined by any statute or rule of court.

SECTION 4 - CONTROL OF MATERIALS

Is amended as follows:

4-1 MATERIALS AND WORKMANSHIP

4-1.2 Protection of Work and Materials

Add the following:

The project site encompasses an area of 70 acres currently open to the public with access from Carlton Hills Boulevard, the San Diego River Trail, and adjacent condominium complex along Carlton Oaks Drive. The site directly adjoins to the San Diego River open space area.

The Contractor shall adequately protect the site from damages, vandalism, and/or theft during the work. The Contractor shall be solely responsible for determining all required measures necessary to protect the site including but not limited to; any fencing, fencing with windscreen, CCTV video monitoring, security patrols, security guards, signage, etc.

4-1.2 Payment

Add the following subsection:

Payment for **Protection of Work and Materials** shall be included in the lump sum price bid for “**Mobilization**” and shall include all labor, materials, equipment, tools and incidental necessary including but not limited to; fencing, windscreen, CCTV video monitoring, security patrols, security guards, temporary lighting and all other related work.

4-1.4 Test of Materials

Delete third and fourth sentences of the first paragraph and substitute the following:

The Contractor shall obtain 3rd party compaction and material testing services from a State of California licensed material testing or geotechnical engineering firm. The Contractor shall submit the contact information of the proposed testing firm to the City for approval prior to the start of work. The Contractor shall be responsible for the scheduling of all testing times and dates with the testing firm(s) in advance of all required operations which require such testing.

4-1.4.1 Compaction Testing Requirements

Add the following subsection:

Compaction testing of all asphalt concrete, aggregate base, and soils shall be performed to the minimum requirements as stated below:

4-1.4.1.1 Asphalt Concrete Pavement Compaction Testing

At least two (2) compaction tests shall be performed, and every 1,500 square feet of asphalt concrete placed or 100' along asphalt trenches.

4-1.4.1.2 Aggregate Base Compaction Testing

1. Trench Backfill:

Aggregate base placed in lifts exceeding four inches (4") thick. At least two (2) compaction tests shall be performed and at every fifty feet (50') of the trench line for each lift.

2. Parking Lots:

Aggregate base placed in lifts exceeding four inches (4") thick shall be tested with at least (4) compaction tests and at every one thousand (1,000 sq. ft.) of aggregate base placed.

3. Building Foundations:

Aggregate base placed for pre-fabricated restroom and disc golf building. At least 3 tests for the restroom building and 2 test for the disc golf building.

4-1.4.1.3 Soil Compaction Testing

1. Trench Backfill:

Soil placed in lifts exceeding six inches (6") thick. At least two (2) compaction tests shall be performed at every fifty feet (50') of the trench line for every eighteen inches (18") vertically of soil placed.

2. Shade Shelters and Pergola Areas:

Two tests for each shade shelter and pergola.

3. Sidewalks and DG Pathways:

One test for every 100-feet longitudinally along sidewalks and DG walkways. Meandering DG pathways not bordered by mow curbs (Disc golf area) DG within Bean Bag Toss / Cornhole area do not require testing.

4. Building Pads:

At least 3 tests for the restroom building and 2 test for the disc golf building or additionally as required by Geotechnical Engineer for pad certifications.

5. Stormwater treatment chamber, Culvert Headwalls, Retaining Walls

At least 2 tests for the storm water treatment chamber foundation, 1 test for each culvert headwall foundation, 3 tests for retaining wall foundation.

6. All other areas:

Soil placed in lifts exceeding six inches (6") thick. At least (4) compaction tests and at every one thousand square feet (5,000 sq. ft.) of soil placed for every twelve (12") vertically placed.

4-1.4.2 Compaction & Material Testing Reporting

Add the following subsection:

Written field reports and testing results shall be provided to the Engineer in writing at the end of each work week. The testing firm shall notify the Contractor, the City Inspector and/or the Engineer immediately of any test results which do not conform to the specifications. Upon notification, the Contractor shall take immediate action to correct their operations or to cease operations immediately to ensure that the work is completed to the requirements of these specifications.

4-1.9 Construction Workmanship and Tolerances for Work

Add the following subsection:

In order to verify the work meets the requirements of these contract documents and to industry standards, the following measurements and methods shall be used. Failure by the Contractor to install work which upon inspection by the Engineer fails to meet these requirements may be grounds for rejection.

Level:	When measuring for levelness of an object, a minimum level of 4' in length shall be used unless the object to be measured is less than 4' in length. The use of any type of level less than 4' in length and placed on top of a straight edge shall not be permitted in lieu of a 4' level.
Radius:	When measuring from the center of a circular curve with a string line or straight edge, no measurement of ¼-inch or greater from the specified radius or diameter shall be permitted for all concrete work.
Slope:	Cross slopes for sidewalks walkways shall be field measured with a digital level not less than 4' in length. Cross slopes shall be within 0.5% of the specified slope and shall in no way exceed the specified slope when a "max" or "maximum" is shown unless approved by the Engineer.
Square:	When measuring to insure items are installed square, all four sides of the object shall be of equal lengths, equal angles, and equal lengths measure from corner points.
Straightness:	Concrete curbs, gutters, and sidewalks shall be installed such that no horizontal or vertical change of ¼" over 10 feet is measured for all straight objects.
Vertical:	Vertical shall mean installed at a perpendicular angle to the horizontal plane measured in at least 3 positions. Any measurable deviation 2 degrees or greater shall be grounds for rejection for any object 10' or less.

4-1.10 Payment

Add the following subsection:

Payment for all required compaction testing, material testing, and percolation testing shall include all labor, materials, equipment, tool, and incidentals necessary to perform the testing including the scheduling of tests, obtaining test samples, testing, preparing daily reports and final reports.

Payment shall be included in the unit price bid for “**Geotechnical Testing**”. When no such item is provided in the bid schedule payment shall be included in the major items of work requiring such testing.

SECTION 5 – UTILITIES

Is amended as follows:

5-1 LOCATION

Add the following paragraphs:

The Contractor shall notify the Underground Service Alert of Southern California at least 48 hours prior to any excavation by dialing (811). The area to be excavated shall be clearly marked in white paint and delineated with “USA” and “Contractors Name”.

All utility crossings shall be potholed two (2) weeks prior to construction to determine if any conflicting conditions exist. The Contractor shall provide the City with all elevations of existing utilities at their respective crossings and the depth from existing finish grade.

Potholing is required to prevent any potential delays to the project prior to the Contractor mobilizing on the project. All costs associated with potholing shall be included in the major items of work.

5-1.2 Payment

Delete subsection and replace with the following:

Payment for utility location and potholing by the Contractor shall be included in the unit price bid for the major items or work requiring utility construction and potholing work.

5-5 DELAYS

Add the following paragraph:

Should a condition be determined at the time of potholing that would require relocations and/or redesign, a non-compensable time extension will be granted to the Contractor to cover the time associated with the relocation and/or redesign.

5-7 COORDINATION

Add the following subsection:

5-7.1 General

The contractor shall coordinate their work with all respective utility agencies. The Contractor shall immediately notify utility agencies when an existing utility is damaged by the Contractors operation or found to be damaged during the course of the work. The following utilities and their respective owners are listed below:

Communications	AT&T
Communications	Cox Communications
Electric	San Diego Gas and Electric
Gas	San Diego Gas and Electric
Recycled Water	Padre Dam Municipal Water District
Sewer	Padre Dam Municipal Water District
Storm Drain	City of Santee
Traffic Signals	City of Santee
Potable Water	Padre Dam Municipal Water District

5-7.2 Utility Contacts

Utility Agency Business Contacts, Non-Emergency:

AT&T	(800) 422-4133
City of Santee	(619) 258-4100 x 167
Cox Communications	(619) 263-5793
Helix Water District	(619) 596-3860
Padre Dam Municipal Water District	(619) 258-4600
San Diego Gas & Electric	(800) 336-7343

Utility Agency Emergency Contacts:

AT&T	(800) 332-1321
City of Santee Duty Pager	(619) 926-1298
Cox Communications	(619) 263-1032
Padre Dam Municipal Water District	(619) 448-3111
San Diego Gas & Electric	(800) 611-7343

SECTION 6 – PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK

Is amended as follows:

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK

6-1.1 Construction Schedule

Delete first sentence and substitute following:

The Contractor shall schedule the Work to cause the least inconvenience to the public and surrounding private properties. The Contractor shall submit a construction schedule to the Engineer for approval within ten (10) days after receipt of the Notice of Award. The Notice to Proceed will be issued after the approval of the construction schedule. Failure by the Contractor to provide a construction schedule within ten (10) days from receipt of the Notice of Award may result in the City deeming a failure by the Contractor to perform to the requirements of the Contract, and the City terminating the contract.

The Construction Schedule shall be prepared in a professional manner with scheduling software such as Microsoft Project, Suretrak, or other approved scheduling software program. The Construction Schedule shall clearly outline the start of work, each phase and work type, their subsequent duration, any holidays and non-working days in the contract, and a final completion date. The Contractor shall update the construction schedule and provide to the Engineer by the first working day of each month and in five (5) working days when requested by the Engineer. Failure by the Contractor to provide an updated construction schedule shall result in the withholding of ten percent (10%) of the total value of the amount due to the Contractor for that subsequent monthly progress pay application for the period in which the construction schedule was not updated. Failure to provide an updated schedule after five (5) working days as requested by the Engineer may result in the suspension of all work until the updated schedule has been provided to the Engineer, and no additional working days will be granted to the Contractor for the suspension period.

The Contractor shall adhere to the construction schedule during the progression of work. Should the Contractor fail to perform work in accordance with the construction schedule where prior notification was required, the Contractor and subcontractors will be directed to stop work, and the Contractor may be charged \$500.00 for each half-hour of work performed outside of the approved construction schedule at the discretion of the Engineer.

The Contractor shall diligently schedule and perform all items of work which have seasonal temperature requirements for placement in order to prevent a delay in the work. Failure to schedule and perform items of work required to be completed prior to work with seasonal temperature requirements, shall be considered an avoidable delay, therefore no additional contract time will be granted to the Contractor, thus resulting in the potential assessment of Liquidated Damages.

6-1.3 Working Day

Add following subsection:

A Working Day shall be defined as non-City recognized holidays occurring from Monday through Friday and when the Contractor is able to work during the first 5 hours of the

working day with at least 60% of the normal work force for that particular day of scheduled work.

Normal working hours shall be between 7:30 a.m. to 4:30 p.m. within the park, and 8:30 a.m. to 3:30 p.m. for any work in Carlton Oaks Blvd that requires traffic control. Night work (defined as the period between 20 minutes prior to dusk and 20 minutes after dawn) will not be permitted.

Work hours for all work requiring lane closures shall be in conformance to Part 6 "Temporary Traffic Control".

Deviation from working days and normal working hours will not be allowed without prior written consent of the Engineer.

6-1.4 City Recognized Holidays

Add following subsection:

Work shall not be performed on recognized City Holidays unless otherwise approved by the Engineer.

Holidays observed by the City are listed below. If any holiday listed falls on a Saturday, the Saturday and the preceding Friday are both legal holidays. If the holiday falls on a Sunday, both Sunday and the following Monday will be legal holidays:

<u>Holiday</u>	<u>Observance Date</u>
New Year's Day	January 1 st
Martin Luther King Day	3 rd Monday in January
Presidents Day	3 rd Monday in February
Memorial Day	3 rd Monday in February
Independence Day	July 4 th
Labor Day	1 st Monday in September
Veteran's Day	November 11 th
Thanksgiving Day	4 th Thursday in November
Day After Thanksgiving Day	4 th Friday in November
Christmas Eve	December 24 th
Christmas Day	December 25 th

6-1.5 Work Outside of Allowable Work Hours

Add following subsection:

If work extends past allowable work hours as defined in Section 6-1.3, at the discretion of the Engineer, the Contractor may be charged up to \$500.00 for each half-hour and any portion of work past allowable work hours.

In the event work is allowed by the Engineer outside of the normal working hours, at the request of and for the benefit of the Contractor, inspection service fees may be levied against the Contractor at a rate of \$100.00 per hour, including travel time where applicable. Failure by the Contractor to pay for these services shall result in the withholding of the amount due to the City from the final payment and/or the withholding of retention funds due to the Contractor.

All streets shall be fully open to the public at the end of each work day. The Contractor may be charged up to \$500.00 for each half-hour and any portion of streets that are not fully open to the public.

The above charge may also be levied if inspection services are deemed necessary by the Engineer as a matter of public safety or to otherwise ensure the quality of the Work.

6-2 PROSECUTION OF THE WORK

Add the following:

The Contractor shall diligently schedule and prosecute all items of work to reduce disturbances to adjacent property owners, roadway traffic and pedestrian access facilities. When certain improvements within this contract have multiple sequential phases of work including but not limited to; underground work, concrete work, asphalt repair work, asphalt overlays and roadway surface treatments; no more than 5 working days delay between each phase of work shall be permitted unless otherwise approved by the Engineer. It is the intent of this section for the Contractor to mobilize, perform all required work, clean up, and demobilize in the least amount of time necessary for each street or individual site location to reduce impacts to City residents. These requirements will be taken into consideration by the Engineer when reviewing the submitted Construction Schedule prior to approval.

6-6 DELAYS AND EXTENSIONS OF TIME

6-6.1 General

6-6.1.1 Avoidable Delays

Add the following subsection:

Avoidable delays in the prosecution of the Work shall include delays which could have been avoided with the exercise of care, prudence, foresight, scheduling, and diligence on the part of the Contractor or its subcontractors, at any tier level, or their suppliers.

6-6.1.2 Unavoidable Delays

Add the following subsection:

Unavoidable delays in the prosecution or completion of the Work shall include delays which result from causes beyond the control of the Contractor and which could not have been avoided by the exercise of care, prudence, foresight, scheduling and diligence on part of the Contractor, their subcontractors, at any tier level, or their suppliers.

6-6.1.3 Abnormal Delays

Add the following subsection:

Abnormal delays caused by acts of God, war, fire, unusual storms, floods, tidal wave, earthquakes, strikes, freight embargo shall be considered as unavoidable delays such that they prevented the Contractor or their subcontractors from proceeding with at least 60% of the normal labor and equipment forces for at least 5 hours per day toward the

completion of the current critical path activity item(s) on the approved construction schedule.

6-6.2 Extension of Time

Add the following paragraph:

Any additional time granted to secure material will be at the discretion of the Engineer after a schedule is submitted for approval. It shall be the sole responsibility of the Contractor to ensure that the materials ordered, scheduled, manufactured, and delivered are on time.

The City, and only the City, will determine which days, if any, may be considered rain days. Such days will be indicated on the Weekly Statement of Working Days. The Contractor shall be entitled to an extension of working time under this contract only when claim for such extension is submitted to the City in writing within seven (7) days from and after the time when any alleged cause of delay shall occur; and only when such time is approved by the City. The City, and only the City, will determine which days, if any, may be considered rain days.

6-6.3 Payment for Delays

Delete this section and replace with the following:

Pursuant to Section 7102 of the Public Contract Code, the Contractor will only be compensated for damages incurred due to delays caused by the City. Such actual costs will be determined by the Engineer. The City will not be liable for damages which the Contractor could have avoided by any reasonable means, such as judicious handling of forces, materials, equipment, suppliers, plants, or their subcontractors. The determination of what damages the Contractor could have avoided will be made by the Engineer.

6-6.4 Written Notice and Report

The Contractor shall be entitled to an extension of time or payment for delay under this contract only when claim for such extension is submitted to the City in writing within seven (7) days from and after the time when any alleged cause of delay began; and only when such time or payment is approved by the City. The Contractor shall submit a written report to the Engineer outlining their justification for additional time or payment requested within 30 days from the beginning of the delay. Failure by the contractor to file these items within the times specified will be considered grounds for refusal by the City to consider such request.

6-7 TIME OF COMPLETION

6-7.1 General

Add the following paragraph:

By submitting a bid, the Contractor acknowledges and agrees that the construction duration stipulated herein is adequate and reasonable for the size and scope of the Project.

All work described in these specifications shall be completed in **180 Working Days** from the start of work as stated in the City's Notice to Proceed. This time includes the completion of all punch list items, submission of any required operation & maintenance manuals, and warranties required for the contract.

6-7.2 Notice to Proceed

Add the following subsection:

The City will issue to the Contractor a "Notice to Proceed" upon receipt of the executed contract agreement, all required bonds, liability insurance, approval of the construction schedule, and approval of the Contractor's representative. This notice shall state the start of work from which each working day therefore will be charged Contract time. Failure by the Contractor to start the work within 10 working days from the date stipulated in the Notice to Proceed shall be deemed as failure to prosecute the work and therefore be cause for City to terminate the Contract for default.

6-8 COMPLETION, ACCEPTANCE, AND WARRANTY

6-8.1 Completion

6-8.1.2 Walk-Through and Punch List Procedure

The Contractor shall request a walk-through by the Engineer, no later than 15 working days prior to the end of Contract time. The Engineer will perform the walk-through within 5 working days from request by the Contractor. The following items are required prior to requesting a walk through.

1. Remove temporary facilities from the site.
2. Thoroughly clean the site.
3. Provide complete Red-lines in accordance with Section 2-5.4.
4. Provide all equipment and material maintenance and operation instructions/manuals.
5. Provide all tools which are a permanent part of equipment installed in the project.
6. Provide all items specified to be supplied as extra materials or spare parts.

After completion of the above items, the Engineer will begin the walkthrough. If the Engineer begins to generate a punch list and finds the Work is not substantially complete as defined herein, the Engineer will terminate the walk-through and notify the Contractor in writing. Upon completion of the walk-through, the Engineer will submit to the Contractor the final punch list with the items required for correction prior to acceptance of the work. All punch list items are to be completed within 10 working days from receipt of the punch list by the Engineer. No additional contract time will be granted to complete punch list items.

6-8.2 Acceptance

Acceptance will occur after all of the requirements contained in the Contract Documents have been fulfilled. If, in the Engineer's judgement, the Contractor has fully performed the contract, the Engineer will recommend to the City Council that the project be accepted as complete and file a Notice of Completion.

6-8.3 Warranty

Add the following:

The Contractor shall warrant all work including components for a period of 1 year. The warranty period for all work under Section 500 shall be 3 years.

The Contractor shall involve the manufacturer in the installation and startup as needed to secure any extended warranty from that provided.

Nothing in here is intended to limit any manufacturer's warranty which provides the City with greater warranty rights than set forth in this section or further stipulated in the Contract Documents. These specifications are not intended to constitute a period of limitations or waiver of any other rights or remedies the City may have regarding the Contractors obligations under the Contract Documents or federal or state law.

6-8.3.1 Defective Work

Add the following subsection:

The Contractor shall respond and initiate corrective action within 24 hours of notice of nonconforming Work that poses an imminent threat to persons or property.

If the Engineer finds the Work, or any port of the Work, to be defective, whether or not manufactured, fabricate, installed, completed or overlooked and accepted by the Engineer, the Contractor must, in accordance with the Engineer's written instructions and within the specified time limits, either correct the Defective Work, or, if it has been rejected by the Engineer, remove it from the Site and replace it with non-defective and conforming work.

If, upon notice, the Contractor fails to immediately correct the Defective Work, or the Contractor fails to correct the Defective Work in a manner conforming to the Contract Documents, the Engineer may order the Contractor to stop all or part of the Project. The City's right to stop the Project does not give rise to any duty on the City's part to stop Work for the Contractor's benefit or the benefit of any other party. The Contractor shall bear all direct and indirect costs and damages that result from the City's stop work notice.

The Engineer may determine in their sole discretion to accept Defective Work in lieu of requiring the Contractor to correct or remove and replace the Defective Work. The Contractor must bear all direct and indirect costs of the Defective Work, and the diminished value to the project, as determined by the Engineer. If the Engineer's acceptance of the Defective Work occurs prior to Final Payment, the Engineer will issue a Change Order incorporating the necessary revisions in the Contract Documents with respect to the Defective Work and affording the City the appropriate decrease in the Contract Price.

If the Contractor fails to correct, remove, or replace Defective Work within 5 Working Days from the date of written notice from the Engineer, the Engineer may proceed expeditiously with any correction of Defective Work undertaken in accordance with this Section. The City may remedy at a sooner time in the event of an emergency. The City may remedy after 5 Working Days from the date of written notice when the Contractor

fails to correct the Defective Work in accordance with the Contract Documents, or when the Contractor fails to comply with any other provisions of the Contract Documents.

When undertaking remedial action under this section, the City may: exclude the Contractor all or part of the Site; take possession of all or part of the Work, and suspend the Contractor's Work and or Services; and incorporate into the project all material and equipment stored at the Site for which the City has paid but the Contractor has stored elsewhere.

The City will not grant an extension of Contract Time or milestones because of any delay in the performance of the Project attributable to the City's undertaking remedial action to correct defective work.

The Contractor must repair or replace traffic signal and lighting system equipment within 72 hours after notification of defects by the Engineer.

The Contractor shall be responsible for any claims, costs, losses, and damages incurred by the City in remedying any deficiency e.g., all costs of repair and/or replacement of Defective Work and all costs of repair of any other Work on the Project destroyed or damaged by correction, removal, or replacement of the Contractors Defective Work.

6-8.3.2 Warranty Format Requirements

Add the following subsection:

Written warranties, except manufacturer's standard printed warranties, must be on the Contractor's, their agents', material suppliers', installers', or manufacturers' own letterhead addressed to and for the City's benefit. Submit all warranties in the format described in this section, modified as approved by the Engineer to suit the conditions pertaining to the warranty.

The Contractors shall obtain warranties, executed in triplicate by responsible Subcontractors and suppliers, within 10 Working days after completion of the applicable item of Work. Except for items put into use with the Engineer's permission with date mutually agreed upon in writing, ensure the beginning time of all warranties is the Project Completion date. The Contractor shall retain all warranties until the time specified for submittal to the Engineer.

Warranties shall be signed by the Contractor and the appropriate agent.

Warranties shall be provided to the Engineer in a 3-ring binder with a neatly typed coversheet, table of contents identifying each warranty with the number and title of the applicable specification section requiring the warranty and the name of the product or Work item.

Each warranty shall be separated with index tab sheets matching the table of contents listing. Provide complete information using separated typed sheets as necessary. The information must include a list of Subcontractors and suppliers with name, address, telephone number of responsible principal.

6-8.3.3 Correction of Work During the Warranty Period

Add the following subsection:

If within 1 year (or longer applicable warranty period) after the date for commencement of warranties under the Contract Documents, any item of Work is found to be Defective Work, the Contractor must correct it promptly after receipt of written notice from the City to do so. This period of 1 year (or a longer applicable warranty period) must be extended with respects to portions of the Work corrected as part of the warranty requirements.

6-9 LIQUIDATED DAMAGES

Delete entire subsection and substitute following:

Work shall be commenced within ten (10) days of the date stated in the City's Notice to Proceed and shall be completed by Contractor within the Contract Time(s) set forth in Section 6.7 "Time of Completion" and additionally stated in Article IX of the Contract Agreement. If the Work is not completed within the Contract Time(s), it is understood that the City will suffer damage, and that is and will be difficult and/or impossible to ascertain and determine the actual damage which the City will sustain in the event of and by reason of the Contractor's failure to complete the Work within the Contract Time(s). In accordance with Government Code section 53069.85, it is agreed that Contractor shall pay to the City **Seventy Eight Hundred (\$7,800.00)** per calendar day as fixed and liquidated damages, and not as a penalty, the sum stipulated in the Contract for each Day of delay until the Work is fully completed. Contractor and its surety shall be liable for any liquidated damages. Any money due or to become due the Contractor may be retained to cover liquidated damages.

6-10 USE OF IMPROVEMENT DURING CONSTRUCTION

Add the following:

Whenever any part of the work is in a condition suitable for use, and the best interest of the City requires such use, the City may take possession of, connect to, open for public use, or use a part thereof. When so used, maintenance and repairs due to ordinary wear and tear or vandalism will be made at City's expense. The use by the City as contemplated in this Article shall in no case be construed as constituting acceptance of the work or any part thereof or relieving the Contractor of the requirement to complete all items of work within Contract Time. Such use shall neither relieve the Contractor of any of his responsibilities under the Contract nor act as a waiver by the City of any of the conditions thereof. Contractor shall continue to maintain all insurance, including Builder's Risk insurance, on the Project.

6-11 RIGHT TO AUDIT

Add the following section:

6-11.1 The City's Right

Add the following subsection:

The City retains the right to review and audit, and the reasonable right of access to the Contractor and all Subcontractors' premises to review and audit the Contractors compliance with the provisions of the Contract (City's Right). The City's Right includes

the right to inspect and photocopy same, and to retain copies, outside of the Contractor's premises, of any and all records with appropriate safeguards, if such retention is deemed necessary by the City in its sole discretion. The City will keep this information in strictest confidence.

The Contractor shall include the City's Right in the Subcontracts and ensure that these specifications are binding upon all Subcontractors.

6-11.2 Audit

Add the following subsection:

The City's Right includes the right to examine any and all books, records, documents and any other evidence of procedures and practices that the City determines is necessary to discover and verify that the Contractor and all Subcontractors are in compliance with all requirements under this Contract.

If there is a claim for additional compensation or for changes in the Work, the City's Right to Audit includes the right to examine books, records, documents, and any and all other evidence and accounting procedures and practices that the City determines is necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, anticipated to be incurred, or for which a claim for additional compensation or for changes in the Work have been submitted.

The Contractor shall maintain complete and accurate records in accordance with generally accepted accounting practices in the construction industry. The Contractor shall make available to the Engineer for review and audit all Project related accounting records and documents, and any other financial data. Upon the Engineer's request the Contractor must submit exact duplicates of original of all requested records to the Engineer.

6-11.3 Compliance Required Before Mediation and Litigation

Add the following subsection:

As a condition precedent to proceeding with mandatory mediation and further litigation under Section 3-5 "Disputed Work" the Contractor shall comply with the audit specifications within 60 days of the Engineer's notice to review and audit compliance. Notice shall be provided in accordance to Section 2-12 "Special Notices".

6-11.4 Access to Records on Federally Funded Projects

Add the following subsection:

The Contractor shall retain all records, books, papers, and documents directly pertinent to the Contract for a minimum of 5 years after the City makes final payments and all other pending matters are closed, and allow access to said records by the City, the Federal grantor agency, the Comptroller General of the United States, or any duly authorized representative.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

Is amended as follows:

7-1 THE CONTRACTOR'S EQUIPMENT AND FACILITIES

7-1.1 General

Add the following:

Enclosed temporary toilet facilities shall be locked at the end of each work day to prevent usage by the public and to prevent vandalism. Location of temporary toilet facilities shall be approved by the City.

7-1.2 Temporary Utility Service

Add the following:

The Contractor is responsible for all temporary utility services e.g. electrical, gas, potable water, recycled water, sewer, phone, cable, internet, and all other utilities required for construction and maintenance activities.

Payment for temporary utility services necessary for the Contractor's field trailers, direct and indirect overhead shall be included in the unit price bid for "**Mobilization**". Payment for temporary utility services directly required for the construction of the Work shall be included in the various bid items.

7-2 LABOR

7-2.1 General

Delete entire subsection and substitute following:

Only competent workers shall be employed on the Work. Any person employed by the Contractor, any Subcontractor who is found to be incompetent, intemperate, troublesome, disorderly, hostile, or otherwise objectionable, or who fails to perform the work properly and acceptably, shall be immediately removed from the Work by the Contractor and shall not be reemployed on the Work. The Engineer shall make the sole determination of employees to be removed from the Work.

7-2.2 Prevailing Wages

Delete entire subsection and substitute the following:

The Contractor shall comply with Labor Code Sections 1774 and 1775. In accordance with said Section 1775 the Contractor shall forfeit as a penalty to the in the amount as defined in Section 1775, \$200 for each calendar day or portion thereof, for each workman paid less than the prevailing rates as determined by the Director of Industrial Relations for such work or craft in which such workman is employed for any work done under the Contract by him or by any Subcontractor under him in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less than the prevailing wage rate shall be paid to each workman by the Contractor.

Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, the City has obtained the general prevailing rate of wages (which rate includes employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for the Section 1773.1 of said Code, apprenticeship or other training programs authorized by Section 3093 of said Code, and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned.

Pursuant to Section 1773.2 of the Labor Code, general prevailing wage rates shall be posted by the Contractor at a prominent place at the site of the Work.

7-2.3 Payroll Records

Delete entire subsection and substitute the following:

Pursuant to Labor Code section 1776, the Contractor and each Subcontractor shall maintain weekly certified payroll records showing the name, address, social security number, work classification, straight time and overtime hours paid each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed in connection with the Work. Contractor shall certify under penalty of perjury that records maintained and submitted by Contractor are true and accurate. Contractor shall also require Subcontractor(s) to certify weekly payroll records under penalty of perjury.

1. Each Contractor and Subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work.
2. The payroll records enumerated under subdivision (1) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:
 - a. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
 - b. A certified copy of all payroll records enumerated in subdivision (1) shall be made available for inspection and furnished upon request within 10 days from request to the City or their authorized representative, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial relations.
 - c. A certified copy of all payroll records enumerated in subdivision (1) shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the City, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant

to paragraph (b), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the Contractor.

3. Each Contractor shall file a certified copy of the records enumerated in subdivision (1) with the entity that requested the records within 10 days after receipt of a written request.
4. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the contract or performing the contract shall not be marked or obliterated.
5. The Contractor shall inform the City of the location of the records enumerated under subdivision (1), including the street address, City and county, and shall, within five working days, provide a notice of a change of location and address.
6. In accordance with Labor Code Section 1771.4, the Contractor and each Subcontractor shall furnish the certified payroll records directly to the Department of Industrial Relations on a weekly basis and in the format prescribed by the Department of Industrial Relations, which may include electronic submission. Contractor shall comply with all requirements and regulations from the Department of Industrial Relations relating to labor compliance monitoring and enforcement.
7. In the event of noncompliance with the requirements of this section, the Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this section. Should noncompliance still be evident after the 10 day period, the Contractor shall, as a penalty forfeit one-hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due."

The penalties specified in subdivision (f) of Labor Code Section 1776 for noncompliance with the provisions of said Section 1776 may be deducted from any moneys due or which may become due to the Contractor.

The Contractor and each Subcontractor shall preserve their payroll records for a period of three (3) years from the date of completion of the contract.

7-2.4 Hours of Labor

Delete entire subsection and substitute following:

Eight hours labor constitutes a legal day's work. The Contractor shall forfeit, as a penalty, \$25 for each workman employed in the execution of the contract by the Contractor or any Subcontractor under him for each calendar day during which such workman is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the Labor Code, and in particular, Section 1810 to Section 1815, thereof, inclusive, except that work performed by employees of Contractor or any Subcontractor in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all excess hours worked at not less than one and one half times the basic rate of pay, as provided in said Section 1815.

7-2.5 Apprentices

Add the following subsection:

Attention is directed to Section 1777.5, 1777.6 and 1777.7 of the California Labor Code and Title 8, California Code of Regulations, Section 200 et seq. The Contractor shall abide by all requirements with respect to the employment of apprentices on for the work.

7-2.6 Debarment of Contractors and Subcontractors

Add the following subsection:

The Contractor, or any Subcontractor working under the Contractor, may not perform work on a public works project with a Subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the California Labor Code. Any contract on a public works project entered into between the Contractor and a debarred Subcontractor is void as a matter of law. A debarred Subcontractor may not receive any public money for performing work as a Subcontractor on a public works contract. Any public money that is paid, or may have been paid to a debarred Subcontractor by the Contractor on the project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred Subcontractor who has been allowed to work on the project.

7-3 LIABILITY INSURANCE

Delete entire section and substitute with the following:

7-3.1 Indemnity

To the fullest extent permitted by law, Contractor agrees to indemnify, defend (with counsel of City's choosing) and hold harmless the City and its officers, employees and elected and appointed officials, and volunteers (each, an "Indemnified Party") from and against any and all liabilities (including without limitation all claims, losses, damages, penalties, fines, and judgments, associated investigation and administrative expenses, and defense costs, including but not limited to reasonable attorneys' fees, court costs and costs of alternative dispute resolution) regardless of nature or type or whether the allegations are false, fraudulent, or groundless, expressly including but not limited to those arising from bodily injury (including death) or property damage, arising out of,

related to, or in connection with the Work or this Contract, including claims made by subcontractors for nonpayment, and including without limitation the payment of all consequential damages and other related costs and expenses. Contractor shall defend, at Contractor's own cost, expense and risk, with counsel of City's choosing, any and all such suits, actions or other legal proceedings of every kind that may be brought or instituted against City, its officials, officers, agents, employees and representatives. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against City, its officials, officers, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse City, its officials, officers, agents, employees and representatives for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code section 2782.

7-3.2 Insurance

Without limiting the Contractor's indemnification of the City, the Contractor shall provide and maintain at its own expense, during the term of this Agreement, or as may be further required herein, the following insurance coverage and provisions.

7-3.2.1 Evidence of Coverage

Prior to the execution of the Contract, the Contractor shall file with the City original certificates and amendatory endorsements, copies of applicable insurance language, or other evidence of insurance from an insurer or insurers the effecting coverage of all insurance required herein. All evidence of insurance shall be signed by a properly authorized officer, agent or qualified representative of the insurer and shall certify the names of the insured, any additional primary insured's, when appropriate, the type and amount of the insurance, the location and operation to which the insurance applies, and the expiration date of such insurance. The City shall be named as an additional insured on the Commercial General Liability policy, and, if the Project involves environmental hazards, on the Pollution/Asbestos Liability policy using form 2010 1185 or equivalent. Any subconsultant, subcontractor or similar entity performing work on the Project must add the City as an additional insured using CG form 20 38, or broader coverage.

The Contractor shall not proceed with the work under the Agreement until it has obtained all insurance required and such insurance has been approved by the City. This approval of insurance shall neither relieve nor decrease the liability of the Contractor.

7-3.2.2 Qualifying Insurers

All policies required must be issued by acceptable insurance companies, as determined by the City, which satisfy the following minimum requirements:

Insurance carriers shall be qualified to do business in California and maintain an agent for process within the State. Such insurance carriers shall have not less than an "A" policyholder's rating and a financial rating of not less than "Class VII" according to the latest Best's Key Rating Guide. Due to market fluctuations in the Workers Compensation sector, the City reserves the right and at its sole discretion to review and accept the Contractor's proposed Workers Compensation Insurance.

7-3.2.3 Minimum Policy Limits Required

The following insurance limits are required for the Contract:

<u>Policy Requirements</u>	<u>Combined Single Limit</u>
Commercial General Liability	\$2,000,000 per occurrence/ \$5,000,000 aggregate for bodily injury, personal injury and property damage
Automobile Liability	\$1,000,000 per occurrence for bodily injury and property damage
Workers Compensation / Employer's Liability	\$1,000,000 per occurrence
Pollution Legal Liability	\$1,000,000 per occurrence or claim \$2,000,000 aggregate
Builder's "All Risk"	Complete value of the Project If Contractor maintains higher limits than the minimums shown above, the City requires and shall be entitled to coverage for the higher limits maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.
All Policies	If Contractor maintains higher limits than the minimums shown above, the City requires and shall be entitled to coverage for the higher limits maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

7-3.2.4 Insurance Required

7-3.2.4.1 Commercial General Liability

Contractor shall take out and maintain, during the performance of the work under this Contract and for twelve (12) months following the completion of all work, in amounts not less than specified in the Contract Documents, Commercial General Liability Insurance, in a form with insurance companies acceptable to the City. Coverage for Commercial General Liability shall be at least as broad as the following:

Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 0001)

Commercial General Liability Insurance shall include coverage for the following:

- a. Bodily Injury (including death) and Property Damage
- b. Personal Injury/Advertising Injury
- c. Premises and Operations
- d. Products / Completed Operations Liability
- e. Aggregate Limits that apply per contract.
- f. Contractual Liability with respect to this Contract
(If the Contractor is working near a railroad or light rail operation, any exclusion as to performance of operation within the vicinity of any railroad bridge, trestle, track, roadbed, tunnel, underpass or crossway shall be deleted.)
- g. Explosion, Collapse, and Underground Hazards (X, C, and U)
- h. Independent Contractors Coverage
- i. Broad Form Property Damage
- j. Severability of Interest clause providing that the coverage applies separately to each insured except with respect to the limits of liability.

All such policies shall name the City, the City Council, its officers, employees, agents, and volunteers as Additional Insured under the policy.

The general liability policy may utilize either deductibles or provide coverage excess of a self-insured retention, subject to written approval by the City.

Should an Umbrella Policy be utilized in addition to the Commercial General Liability policy to meet the minimum coverage limits, the City shall be named as additional insured and be endorsed onto the Umbrella Policy.

7-3.2.4.2 Automobile Liability

At all times during the performance of the Work under this Contract, and for twelve (12) months following the completion of all work, the Contractor shall maintain Automobile Liability Insurance for bodily injury(including death) and property damage including coverage for owned, non-owned, and hired vehicles, in a form and with insurance companies acceptable to the City.

Coverage for automobile liability insurance shall be at least as broad as Insurance Services Office Form Number CA 0001 (ed. 6/92) covering automobile liability, Code 1 (any auto). The automobile liability program may utilize deductibles, but not a self-insured retention, subject to written approval by the City.

All such policies shall name the City, the City Council, its officers, employees, agents, and volunteers as Additional Insured under the policy.

7-3.2.4.3 Workers' Compensation / Employer's Liability

At all times during the performance of the work under this Contract, and for twelve (12) months following the completion of all work, the Contractor shall maintain workers' compensation in compliance with applicable statutory requirements and Employer's Liability Coverage in amounts not less than the limits specified in the Contract Documents.

Such Insurance shall include an insurer's Waiver of Subrogation in favor of the City and will be in a form and with insurance companies acceptable to the City.

If insurance is maintained, the workers' compensation and employer's liability program may utilize either deductibles or provide coverage excess of a self-insured retention, subject to written approval by the City.

Before beginning work, the Contractor shall furnish to the City satisfactory proof that he or she has taken out for the period covered by the work under this Contract, full compensation insurance for all persons employed directly by Contractor or through Subcontractors in carrying out the work contemplated under this Contract, all in accordance with the "Workers' Compensation and Insurance Act," Division IV of the Labor Code of the State of California and any acts amendatory thereof.

Pursuant to the requirements of Section 1860 of the Labor Code, the Contractor will be required to secure the payment of worker's compensation to his employees in accordance with the provisions of Section 3700 of the Labor Code.

Prior to the commencement of work, the Contractor shall sign and file with the Engineer a certification in the following form:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

Said certification is included in the Workers' Compensation Insurance Certificate which must be signed and filed with the City prior to performing any work under this contract.

7-3.2.4.4 Pollution Legal Liability

At all times during the performance of the work under this Agreement and for sixty (60) months following the date of Project completion, the Contractor shall maintain Pollution Legal Liability insurance and/or Errors and Omissions in an amount indicated herein.

The Contractor, along with all employees, agents and subcontractors who have a reasonable probability of coming into contact with hazardous materials, shall be adequately trained to comply with and shall comply with all laws and regulations relating to the care and protection of the environment in the performance of the work performed by the Consultant or any portion thereof.

7-3.2.4.5 Builder's Risk "All Risk"

It is the Contractor's responsibility to maintain or cause to be maintained Builder's Risk ["All Risk"] extended coverage insurance on all work, material, equipment, appliances, tools, and structures that are or will become part of the Project and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The City accepts no responsibility for the Project until the Project

is formally accepted by the City. The Contractor shall provide a certificate evidencing this coverage before commencing performance of the Project.

The named insureds shall be Contractor, all Subcontractors of any tier (excluding those solely responsible for design work), suppliers, and the City, its elected and appointed officers, agents, officials, employees and volunteers, as their interests may appear. Contractor shall not be required to maintain property insurance for any portion of the Work following acceptance by City.

The policy shall be provided for replacement value on an "all risk" basis. There shall be no coinsurance penalty provision in any such policy. Policy must include: (1) coverage for any ensuing loss from faulty workmanship, nonconforming work, omission or deficiency in design or specifications; (2) coverage against machinery accidents and operational testing; (3) coverage for removal of debris, and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all other properties constituting a part of the Project; (4) transit coverage, including ocean marine coverage (unless insured by the supplier), with sub-limits sufficient to insure the full replacement value of any key equipment item; and (5) coverage with sub-limits sufficient to insure the full replacement value of any property or equipment stored either on or off the Site. Such insurance shall be on a form acceptable to City to ensure adequacy and sublimit.

In addition, the policy shall meet the following requirements:

- a. Insurance policies shall be so conditioned as to cover the performance of any extra work performed under the Contract.
- b. Coverage shall include all materials stored on site and in transit.
- c. Coverage shall include Contractor's tools and equipment.
- d. Insurance shall include boiler, machinery and material hoist coverage.

7-3.2.5 Policy Provisions Required

The City, as an additional insured, shall be expressly endorsed onto each policy as a cancellation notice recipient such that the City shall receive a copy of any cancellation notice in the event any policy is cancelled.

General Commercial Liability, Automobile Liability, and Pollution Liability insurance policies shall contain a provision stating that the Contractor's policies are primary insurance and that the insurance of the City or any named additional insurers, shall not be called upon to contribute any loss.

7-4 LICENSING

Add the following subsection:

The Contractor and their subcontractors shall be responsible to procure all required licensing necessary to perform the work in accordance to all Federal, State and local laws and requirements.

7-4.1 Business Licensing

The Contractor and all subcontractors shall obtain a business license with the City of Santee to perform business with the City of Santee. The Contractor and their subcontractors shall be responsible to pay for the business licensing fees.

7-5 PERMITS

Delete first sentence and substitute with the following:

The Contractor shall be responsible to procure all permits required to perform the work including a permit from the State Division of Industrial Safety for excavations five (5) feet in depth or greater.

7-5.1 City Encroachment Permit

The Contractor shall obtain an encroachment permit to perform any work within City right-of-way and any facilities. The contractor shall be responsible for completing the permit application and providing any necessary traffic control plans (when required). The cost of the Encroachment Permit and any inspection fees will be paid for by the City.

7-5.2 Building Permit

The Contractor shall obtain a building permit and be responsible for completing the permit application and providing all required plans, calculations, and applicable documentation required for issuance of the building permit. The cost of the building permit and any inspection fees shall be paid by Contractor will be reimbursed for by the City.

7-6 THE CONTRACTOR'S REPRESENTATIVE

Add the following paragraph:

The Contractor's representative shall be a full time field supervisor with a minimum of 5 years supervisory experience in the type of Contract Work being performed, and additional 10-years of similar construction experience. The Contractor's representative shall be the jobsite at all times during construction. The Contractor's representative shall also be on site when work is being performed by Subcontractors and be available at all reasonable times during the work day for consultation with the City unless otherwise approved by the Engineer.

The Contractor shall submit to the City for review the Contractor's representative's name, work experience, education, professional certifications, and at least 5 references from similar work completed within the past 3 years. Contractor shall submit these qualifications no later than 48-hours from the bid date for review and approval by the City. Should the submitted representative be rejected by the City, the Contractor shall resubmit a qualified representative within 72 hours from notice by City.

The City reserves the right to direct the Contractor to substitute the Contractor's representative when work has not been performed in accordance to the Contract

Documents. The following items are grounds by the City for removal of the Contractor's representative.

- a) Failure by the Contractor's representative to maintain a safe work site to workers and/or the public.
- b) Demonstration by the Contractor's representative to not fully understand means, methods, procedures and materials required to correctly perform the work.
- c) Refusal by the Contractor's representative when directed by the Engineer to perform the work or provide corrective actions for deficient work.
- d) When the work performed under the supervision of the Contractor's representative is continually determined to faulty, defective, and failing to be in conformance with the Contract documents.

At all times during the working day, the Contractor shall maintain sufficient staff and communication facilities for the Contractors representative to receive and respond to complaints from the public concerning their work and to immediately inform the field supervisor of conditions which require prompt action. A telephone answering service does not meet this requirement.

The Contractor shall furnish the City with the names, addresses, business & mobile telephone numbers of two people responsible for the maintenance of barricades, traffic control signs, lights and other safety devices on a 24 hour basis. Contact person shall have the ability of arriving to the work site within 1 hour from being contacted.

7-6.1 Project Meetings

Add the following subsection:

The Contractors representatives (field supervisor, superintendent, and project manager) shall attend scheduled construction meetings as required by the Engineer. If any of the Contractor's staff cannot attend the meeting, the Contractor shall notify the Engineer a minimum of 24 hours in advance, prior to the start of the scheduled meeting. Failure to provide the required notification, the Contractor shall pay for the costs of the City's staff, consultants, or both that attend. The Contractor will be charged a minimum of 1 hour of the Engineer's time plus the time of the City's other employees or representatives that attend the meeting.

7-6.1.1 Payment

Payment for attendance of Project meetings shall be included in various bid items. The Engineer will deduct costs assessed to the Contractor for not attending meetings from the monthly progress payment.

7-7 COOPERATION AND COLLATERAL WORK

Add the following paragraph:

Pursuant to Public Contract Code Section 9201, the City shall provide Contractor with timely notification of the receipt of any third-party claim, relating to the Contract. City is entitled to recover its reasonable costs incurred in providing such notification.

7-8 WORK SITE MAINTENANCE

7-8.1 General

Add the following:

The Contractor shall use a self-loading motorized street sweeper equipped with a functional water spray system. The sweeper shall clean all paved areas within the Work site and all paved haul routes at least once each working day or a required to maintain a clean work site.

7-8.2 Air Pollution Control

Add the following paragraph:

During construction, idling time shall be limited to a maximum of 5 minutes for all diesel powered equipment. Signs shall be posted in the designated queuing areas of the construction site to limit idling to a maximum of 5 minutes.

7-8.3 Noise Control

Add the following paragraphs:

The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the Contract.

Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler. The noise level from the Contractor's operations shall not exceed 75 dBA.

7-8.4 Storage of Equipment and Materials

7-8.4.1 General

Delete this subsection and replace with the following:

The City is not providing storage, staging or stockpiling area for this project. It is the Contractor's responsibility to provide a suitable location for this purpose. These sites shall be clean and free of objectionable materials and be located outside of any City property and street right-of-way. Arrangement for these sites shall be the responsibility of the Contractor. If on private property, a copy of the written agreement shall be provided to the Engineer prior to commencing operations.

No materials, tool or equipment shall be placed such that they block any sidewalks, pedestrian ramps, driveways, staircases or roadways unless otherwise approved by the Engineer. All materials for disposal shall be removed from the work site at the end of each work day. All materials, tools, and equipment shall be removed from the Work site as soon as they are no longer necessary. All materials, equipment, tools, and sanitation facilities shall be protected and surrounded by a 6' tall temporary chain link fence with windscreen to protect the storage area from access by the public at all times and provide a neat clean appearance.

Before inspection by the Engineer for final acceptance, the storage area and surrounding work site shall be cleared of all equipment, unused materials, debris, and rubbish so as to present a satisfactory clean and neat appearance.

Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other contaminants must be located at least 50 feet from riparian vegetation. Any necessary equipment washing must occur where the water cannot flow into the San Diego River. Stationary equipment operated within 50 feet of riparian vegetation shall be placed on secondary containment.

7-8.4.2 Storage in Public Streets

Delete this subsection and replace with the following:

Construction materials and equipment, including sanitary facilities, shall not be stored in the public right-of-way, public streets, roads or highways unless otherwise approved by the Engineer. All materials or equipment not installed or used within 2 days shall be removed from the work site to a location approved by the Engineer. Contractor shall remove and/or relocate construction materials and equipment, including sanitary facilities at the request of the City. Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored within the right-of-way unless otherwise approved by the Engineer. Immediately after placing backfill, all excess material shall be removed from the work site and area shall be swept free of all debris.

7-8.6 Water Pollution Control

7-8.6.1 General

Add the following:

The Contractor shall comply with the requirement of the Construction General Permit as applicable for construction activity that results in land disturbance.

7-8.6.2 Best Management Practices (BMPs)

Add the following:

7-8.6.2.1 Fiber Rolls

1. Fiber rolls shall be furnished, installed, maintained, and removed at the locations shown on the Plans or as required.
2. Fiber rolls shall consist of prefabricated wheat or rice straw in rolls with a minimum diameter of 8 inches. The rolls shall be bound with an ultraviolet (UV) degradable plastic netting and weigh no less than 1.3 pounds per linear foot.
3. Stakes shall be fir or pine, and shall have a cross-sectional area of at least 0.5 square inch and a minimum length of 2 feet.
4. Fiber rolls shall be installed in accordance with Detail SE-5 in the CASQA BMP Handbook, latest edition, and the manufacturer's recommendations.
5. Fiber rolls shall be maintained to provide for the dispersal of concentrated water runoff and reduce runoff velocities.
6. When no longer required for the intended purpose, as determined by the Engineer, fiber rolls shall be removed from the site of work.

7-8.6.2.2 Gravel Bag Check Dam

1. Gravel bag check dam shall be installed where required and placed in accordance with the detail the CASQA BMP Handbook, latest edition.
2. Gravel fabric shall be woven polypropylene, polyethylene or Polyamide with a minimum unit weight of 0.25 pound per square yard. The fabric shall have a mullen burst strength of at least 300 psi, conforming to ASTM Designation: D 3786 and an ultraviolet (UV) stability exceeding 70 percent.
3. Gravel fill material shall be non-cohesive, coarse sand or gravel, free from deleterious material or fines.
4. Gravel bag check dams shall be maintained to provide for adequate sediment holding capacity. Sediment deposits shall be removed when the deposit reaches one-third of the gravel bag barrier height and between rain events whichever is most frequent. Removed sediment shall be deposited within the project in such a way that it is not subject to erosion by wind or water.
5. When no longer required for the intended purpose or as determined by the Engineer, gravel bag barriers shall be removed.
6. Holes, depressions or any other ground disturbance caused by the gravel bag barriers shall be backfilled and repaired to the preexisting condition.

7-8.6.2.3 Silt Fence

1. Silt fence shall be installed around the entire site perimeter including all onsite drainage channels to prevent sediment from leaving the site or entering any natural drainage area.
2. Silt fences shall be installed in accordance with the detail SE-1 in the CASQA Handbook, latest edition, and the manufacturer's recommendations.
3. When no longer required for the intended purpose or as determined by the Engineer, silt fences shall be removed.

7-8.6.2.4 Stabilized Construction Entrance/Exit

1. A stabilized construction entrance/exit shall be installed where any vehicular access is located in accordance with the details in the CASQA Handbook, latest edition.
2. Contractor shall maintain all roadways free of silt and debris that is a result of their work and subsequent operations.
3. When no longer required for the intended purpose or as determined by the Engineer, the construction entrance/exit shall be removed.

7-8.6.2.5 Materials & Waste Management

1. Stockpiles shall be covered when no longer in use and prior to predicted rain events. All asphalt shall be stored on a layer of plastic sheeting, or equivalent.
2. All portable toilets shall have a secondary containment and not be located near any storm drain, catch basin, street or watercourse.
3. Vehicle maintenance, repair and storage BMPS will be implemented including: use of drip pans or equivalent under vehicles stored overnight. Daily inspection for leaks, and spills, prompt removal of spills, availability of oil-absorbent spill removal material must be available on site.

4. Heavy Equipment shall not be stored in the public right-of-way.
5. Trash dumpsters shall have lids and remain closed and the dumpsters will not be overfilled. Additional trash pick up to accommodate accumulated trash may be required to prevent overflow of dumpsters.
6. Liquid materials shall be stored in closed containers with secondary containment and shall be covered. Solid materials shall be stored on pallets and be covered during rain events.
7. A material washout shall be provided onsite whenever liquid materials are used. The washout shall be sized to fully contain those materials and the surrounding area shall be kept free of spills at all times.
8. Discharge of potable water other than when utilized for dust control (such as power-washing or filling water trucks) will be prevented.
9. Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering jurisdictional waters.
10. Any cement, concrete, or asphalt that is spilled must be removed. Any paint, oil or petroleum products that contact soils must be cleaned with a spill response kit.

7-8.6.3 Storm Water Pollution Prevention Plan (SWPPP)

Add the following:

1. As part of the water pollution control work, a Storm Water Pollution Prevention Plan, hereafter referred to as the "SWPPP", has been prepared for this contract by Rick Engineering Company dated June 20, 2018 and is hereby made part of the contract documents as "**Attachment B**". The SWPPP shall be updated to reflect the current existing conditions and complied with by the Contractor, as required.
2. The Contractor shall amend the SWPPP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems or when deemed necessary by the Engineer. The SWPPP shall be amended if the SWPPP is in violation of any condition of the Permit, or has not effectively achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially approved SWPPP, which are required on the project to control water pollution effectively. Amendments to the SWPPP shall be submitted for review and approval by the Engineer in the same manner specified for the initially approved SWPPP. Approved amendments shall be dated and logged in the SWPPP. Upon approval of the amendment, the Contractor shall implement the additional control measures or revised operations.
3. The Contractor shall keep a copy of the SWPPP and approved amendments at the project site. The SWPPP shall be made available upon request of a representative of the Regional Water Quality Control Board, State Water Resources Control Board, United States Environmental Protection Agency or the local storm water management agency. Requests by the public shall be directed to the Engineer.

7-8.6.3.1 SWPPP Implementation

1. The Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting, and maintaining the control measures included in the SWPPP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified in these special provisions, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work ordered. Requirements for installation, construction, inspection, maintenance, removal, and disposal of control measures are specified in the Handbook and these special provisions.
2. The Contractor shall demonstrate the ability and preparedness to fully deploy soil stabilization practices and sediment control measures to protect soil-disturbed areas on the project site before the onset of precipitation. A quantity of soil stabilization and sediment control materials shall be maintained on site equal to 100 percent of that sufficient to protect unprotected, soil-disturbed areas on the project site. A detailed plan for the mobilization of sufficient labor and equipment shall be maintained to fully deploy control measures required to protect unprotected, soil-disturbed areas on the project site prior to the onset of precipitation. A current inventory of control measure materials and the detailed mobilization plan shall be included as part of the SWPPP.
3. The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the SWPPP for sediment tracking, wind erosion, non-storm water management and waste management and disposal.
4. All slopes shall be stabilized within 10 calendar day after work has discontinued, or finished on the slope. All slopes shall be stabilized prior to a forecasted rain event.
5. The Engineer may order the suspension of construction operations which create water pollution if the Contractor fails to conform to the provisions of this section "Water Pollution Control" as determined by the Engineer.

7-8.6.3.2 Maintenance

1. To ensure the proper implementation and functioning of control measures, the Contractor shall regularly, but at least weekly, inspect and maintain the construction site for the control measures identified in the SWPPP. The Contractor shall identify corrective actions and time needed to address any deficient measures or reinstate any measures that have been discontinued.
2. The construction site inspection checklist provided in the Handbook shall be used to ensure that the necessary measures are being properly implemented, and to ensure that the control measures are functioning adequately. One copy of each site inspection record shall be submitted to the Engineer.
3. During the rainy season, inspections of the construction site shall be conducted by the Contractor to identify deficient measures, as follows:
 - a. Prior to a forecast storm;
 - b. After any precipitation which causes runoff capable of carrying sediment from the construction site;
 - c. At 24 hour intervals during extended precipitation events; and
 - d. Routinely, at a minimum of once every week.

4. If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified control measure, the deficiency shall be corrected immediately. The deficiency may be corrected at a later date and time if requested by the Contractor and approved by the Engineer in writing, but not later than the onset of subsequent precipitation. The correction of deficiencies shall be at no additional cost to the City.
5. Unless noted otherwise on the Plans, all erosion control measures shall remain in place until after the construction is completed. The Contractor shall be responsible for inspecting all erosion prevention measures at the completion of construction to assure their proper function.
6. The Contractor shall be responsible for maintaining all existing storm water pollution control measures that are present on site prior to construction including all site perimeter control measures, and all measures in place to protect the San Diego River, silt fencing, fiber rolls, and gravel bags. This includes maintaining the channel free of all debris, erosion, riling, located in the Creek channel within the construction site prior, during, and after rain events, until the project is accepted by the City. The Contractor is also required to protect the entire site from all impacts caused due to the Contractors construction activity.

7-8.6.3.3 Water Pollution Prevention

1. The Contractor shall exercise every reasonable precaution to protect storm drain inlets, streams, lakes, reservoirs, bays, and coastal waters from pollution with fuels, oils, bitumens, calcium chloride, and other harmful materials and shall conduct and schedule operations so as to prevent muddying and silting of said streams, lakes, reservoirs, bays, and coastal waters. Care shall be exercised to preserve vegetation beyond the limits of construction and for the San Diego River within the project limits.
2. Water pollution control work is intended to provide prevention, control, and abatement of water pollution to streams, waterways, and other bodies of water, and shall consist of constructing those facilities which may be shown on the plans, specified herein or in the Special Provisions, or as directed by the Engineer.
3. In order to provide effective and continuous prevention of water pollution, it may be necessary for the Contractor to perform the contract work in small or multiple units, on an out of phase schedule, and with modified construction procedures. The Contractor shall provide temporary water pollution control measures, including, but not limited to, dikes, basins, ditches, and applying straw, bonded fiber matrix and seed, which become necessary as a result of his operations. The Contractor shall coordinate water pollution prevention work with all other work done on the contract.
4. Before starting any work on the project, the Contractor shall submit, for acceptance by the Engineer, a program to prevent water pollution effectively during construction of the project. Such program shall show the schedule for the erosion control work included in the contract and for all water pollution prevention measures which the Contractor proposes to take in connection with construction of the project to minimize the effects of operations upon adjacent streams and other bodies of water. The Contractor shall not perform any clearing and grubbing or earthwork on the project, other than that specifically authorized in writing by the Engineer, until such program has been accepted.

5. The Engineer will notify the Contractor of the acceptance or rejection of any submitted or revised water pollution prevention program in not more than 5 working days.
6. If the measures being taken by the Contractor are inadequate to prevent water pollution effectively, the Engineer may direct the Contractor to revise his operations and his water pollution prevention program. Such directions will be in writing and will specify the items of work for which the Contractor's water pollution prevention measures are inadequate. No further work shall be performed on said items until the water pollution control measures are adequate and, if also required, a revised water pollution prevention program has been accepted.
7. Where erosion is probable due to the nature of the material or the season of the year, the Contractor's operations shall be so scheduled that permanent erosion control features will be installed concurrently with or immediately following grading operations.
8. Nothing in the terms of the contract nor in the provisions in this Section shall relieve the Contractor of the responsibility for compliance with Sections 5650 and 12015 of the Fish and Game Code, or other applicable statutes relating to prevention or abatement of water pollution.
9. The Contractor shall also conform to the following provisions:
 - a. Where working areas encroach on live streams, barriers adequate to prevent the flow of muddy water into streams shall be constructed and maintained between working areas and streams, and during construction of such barriers, muddying of streams shall be minimized.
 - b. Removal of material from beneath a flowing stream shall not commence until adequate means, such as a bypass channel, are provided to carry the stream free from mud or silt around the removal operations.
 - c. Should the Contractor's operations require transportation of materials across live streams, such operations shall be conducted without muddying the stream. Mechanized equipment shall not be operated in the stream channels of such live streams except as may be necessary to construct crossings or barriers and fills at channel changes.
 - d. Water containing mud or silt from aggregate washing or other operations shall be treated by filtration, or retention in a settling pond, or ponds, adequate to prevent muddy water from entering live streams.
 - e. Oily or greasy substances originating from the Contractor's operations shall not be allowed to enter or be placed where they will later enter a water body.
 - f. Portland cement or fresh Portland cement concrete shall not be allowed to enter flowing water of streams. Any cement or concrete spills shall be immediately removed.
 - g. When operations are completed, the flow of streams shall be returned as nearly as possible to a meandering thread without creating possible future bank erosion, and settling pond sites shall be graded so they will drain and will blend in with the surrounding terrain.
 - h. Material derived from roadway work shall not be deposited in a stream channel where it could be washed away by high stream flows.
 - i. Where there is possible migration of anadromous fish in streams affected by construction on the project, the Contractor shall conduct his operations so as to allow free passage of such migratory fish.
 - j. Construction equipment shall not be operated in flowing water.

10. Compliance with the requirements of this section shall in no way relieve the Contractor from his responsibility to comply with other provisions of the contract, in particular his responsibility for damage and for preservation of property.
11. Water pollution control work shall conform to the California Storm Water Quality Associations (CASQA) Best Management Practice handbook for Construction 2015 edition or most recent.
12. Copies of the Handbook and the Permit are also available for review at Caltrans District 11 Headquarters, 4050 Taylor Street, San Diego, California 92110.
13. The Contractor shall know and fully comply with the applicable provisions of the Handbook and Federal, State, and local regulations that govern the Contractor's operations and storm water discharges from both the project site and areas of disturbance outside the project limits during construction.
14. Unless arrangements for disturbance of areas outside the project limits are made by the City and made part of the contract, it is expressly agreed that the City assumes no responsibility whatsoever to the Contractor or property owner with respect to any arrangements made between the Contractor and property owner to allow disturbance of areas outside the project limits.
15. The Contractor shall be responsible for the costs and for liabilities imposed by law as a result of the Contractor's failure to comply with the provisions set forth in this section "Water Pollution Control", including but not limited to, compliance with the applicable provisions of the Handbook, and Federal, State and local regulations. For the purposes of this paragraph, costs and liabilities include, but are not limited to, fines, penalties, and damages whether assessed against the State or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act.
16. At reasonable times and upon presentation of credentials and other documents as may be required by law, the Contractor shall allow authorized agents of the California Regional Water Quality Control Board, State Water Resources Control Board, United States Environmental Protection Agency and the local storm water management agency to:
 - a. Enter upon the construction site and the Contractor's facilities pertinent to the work;
 - b. Have access to and copy records that must be kept as specified in the Permit;
 - c. Inspect the construction site and related soil stabilization practices and sediment control measures; and
 - d. Sample or monitor for the purpose of ensuring compliance with the Permit.
17. The Contractor shall notify the Engineer immediately upon request from the regulatory agencies to enter, inspect, sample, monitor or otherwise access the project site or the Contractor's records.

7-8.6.4 Hydroseeding of Disturbed Areas

Delete subsection and replace with the following:

Once work in disturbed areas has been completed, a non-irrigated hydroseed mix shall be applied including disturbed slopes of the site during construction as necessary to prevent silts from leaving slopes. Upon completion of Work the temporary water pollution control items shall be removed from the site. The Contractor is responsible to protect and maintain all water pollution items throughout the project.

7-8.6.4.1 Non-Irrigated Hydroseed Mix

Add the following:

Non-Irrigated hydroseed mix shall conform to the following:

Non-Irrigated Hydroseed Mix		
Seed Species	% Purity Per Acre	Pounds Per Acre
Atriplex Glauca	70 PLS.	20
Plantage Insularis		50
Encelis Farinosa		8
Lotus Scoparius	Scarified	6
Exchscholtzia California	50 PLS.	7
		91 LBS

7-8.6.5 Payment

Delete subsection and replace with the following:

Payment for **“Water Pollution Control”** shall be paid for on a lump sum basis. Payment shall include all costs for the installation, maintenance and removal of water pollution control items including but not limited to; rock berms, gravel bags, fiber rolls, silt fence, inlet filters, construction entrances, covering of stockpiles, non-irrigated hydroseed mix, and all other water pollution control items. This item shall include all costs associated with the handling of storm water during construction, including rain events and nuisance water.

The amount bid for this item shall be paid over the duration of the project with the amount paid on each monthly progress estimate determined by the percent complete on all other bid items.

7-8.7 Graffiti Control

The Contractor shall maintain the site improvements, including any temporary facilities, equipment or other materials free of graffiti. All graffiti shall be removed within 24 hours. Contractor shall notify the Sheriff’s Department upon discovery or notification of graffiti and allow a reasonable time for Sheriff Department staff to document graffiti for future prosecution when possible.

7-8.8 Payment

Payment for Work Site Maintenance, excluding Water Pollution Control shall be included in the unit price bid for the major items of work unless a separate bid item is provided.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS

Add the following paragraphs:

The Contractor shall be responsible to protect all existing public and private facilities during the Work. Any damaged striping or reflective pavement markers from tracking or equipment shall be replaced. The Contractor shall replace all damaged improvements

at their expense. All grass turf damaged as a result of the work shall be repaired with sod turf matching the existing grass type.

The Contractor shall cover existing manholes, valve covers, vault lids, and grates to protect from asphalt concrete pavement, tack coating, seal coatings, Portland cement concrete and striping from being placed on.

The Contractor shall be responsible to coordinate with private property owners to obtain written permission to perform work on private property and to discuss foreseeable damages and repairs to their property.

All grass turf damaged as a result of the work shall be repaired with sod turf matching the type of turf that was damaged.

7-9.1 Placement and Removal of Markouts

Markouts shall refer to all temporary marking or painting of the ground, pavement, or sidewalk by the facility or utility owner or its representative for the Contractors Convenience.

Markouts shall not be placed in the public right-of-way more than 30 days prior to the commencement of excavations. No paint or markings of any kind shall be placed on existing facilities or any other removable item within the right-of-way without approval from the Engineer. This includes but not limited to; manhole covers, valve lids, catch basins, grates, street light poles, signs, traffic signal poles, truncated domes and other similar items.

All markings for utility and underground markouts shall be placed with removable paint or marking chalk in order to allow for a complete removal of all markings at the end the project to provide a neat and clean appearance. All marking shall be removed by the end of the project to the satisfaction of the Engineer. The Contractor shall be responsible to notify the utility and underground agencies of this requirement when requesting markouts for the project area.

When permitted by the Engineer, the Contractor may "black-out" utility and underground markings on asphalt concrete pavement with marking paint which closely matches the existing asphalt pavements surface color in a flat sheen type of marking paint.

7-9.2 Video Recording of Existing Conditions

The Contractor shall document any existing site deficiencies which were not caused by the Contractor and/or their subcontractors by video recording the project site in advance of the work. Contractor shall submit the DVD recording to the Engineer no later than 5 working days after the Notice to Proceed. The Contractor shall obtain written permission from private property owners prior to video recording on private property.

Examples of the items to be recorded are including but not limited to:

1. Property markers
2. Rights-of-way and easement conditions

3. Utility markings
4. Survey conditions
5. Pavement conditions
6. Location and condition of existing pavement striping, markings and markers
7. Adjacent property conditions
8. Curbs, gutters, sidewalk and median conditions
9. Fencing, and landscape conditions.
10. Street lights and traffic signals components
11. Building Facilities
12. Safety conditions
13. Unusual conditions or equipment

7-9.2.1 Payment

Payment for video recording services shall be included in the unit price bid for **“Mobilization”** when included in the bid schedule. If no such item is provided, payment shall be included in the major items of work.

7-9.3 Payment for Planned or Foreseeable Damages

The Contractor shall include payment for the restoration of existing improvements damaged as a part of the Work in the items of Work which caused the damages to the existing improvements.

7-10 SAFETY

7-10.1 Responsibility

The Contractor is responsible to ensure a safe work site at all time during the Contract. Contractor shall inform occupants of abutting properties by written notice, of any access limitations made necessary by the Work at least 5 working days in advance.

The Contractor shall ensure compliance with all local, State and Federal safety requirements for all aspects of the work including but not limited to:

- a) Providing adequate safeguards for workers and the general public.
- b) Assuring that any person working in or adjacent to a traveled roadway wears a safety vest as required for workers and flag persons.
- c) All employees wear suitable head, eye, and foot protection at all times, including and hearing protection when required due to the work.
- d) Patrol the construction site as required to ensure that all safety devices are in place and operating at all times.
- e) Vehicles and equipment have operating backup alarms.
- f) During night time work, adequate portable overhead lighting is provided to illuminate the work site for workers safety and for passing vehicles to clearly navigate past the work area. Portable lighting shall be inspected to ensure it does not provide a hazard to passing vehicles by over shining, glare, or be of an intensity disturbing to passing motorists.

7-10.3 Haul Routes

Delete entire subsection and substitute following:

Contractor shall submit all haul routes to Engineer for approval. Haul routes shall be limited to the approved City truck routes unless authorized by the City Traffic Engineer.

Haul trucks must have a minimum of 12 inches of freeboard, or all loads must be covered. Vehicle speeds must not exceed 15 miles per hour on unpaved surfaces.

7-10.4 Safety

7-10.4.1 Work Site Safety

7-10.4.1.3 Health and Safety Plan

Add the following subsection:

The Contractor and their subcontractors have the ultimate responsibility for the health and safety of their respective employees. These specifications shall not be construed to limit the Contractor and their subcontractors liability nor to assume that the City, the City Council, its officers, employees, agents or designate, will assume any of the Contractor's or their subcontractor's liability associated with Site safety considerations.

The Contractor shall have a health and safety plan in effect at least 1 week prior to commencement of the Work. The plan must comply with all OSHA, and other State and Federal requirements. The plan must specifically address procedures and protocols that will be followed to monitor for the presence of hazardous atmosphere, possibility for engulfment, gasses due to organic soils or proximity to landfills, exposure to hazardous products that may be released from grinding, cutting, or torching galvanized or painted surfaces, contaminated soil, and groundwater, and identify response actions that will be taken when these conditions are encountered. The City will not assume any role in determining the adequacy of the plan on the Contractor's behalf.

7-10.4.1.4 Playground Safety

Add the following subsection:

The Contractor shall provide a secured fence around all playground(s) to prevent use or access. The fencing shall remain in place until the independent Playground Safety Audit has been performed by the Contractor, the Engineer

The Contractor shall provide certification by a National Playground Safety Institute (NPSI) certified playground inspector that the installed equipment is compliant with all applicable codes.

Payment for fencing around playgrounds and the playground safety audit shall be included in the applicable bid items for the construction of the playground(s).

7-10.4.1.5 Open Excavations

Add the following subsection:

All trenches shall be backfilled or covered with steel plates at the end of each work day to restore roadways and pedestrian facilities for usage. Open trenches are not permitted outside of working hours unless prior written approval is received from the Engineer.

Open excavations outside of roadways or pedestrian facilities which are permitted to be open outside of working hours must be securely fenced in accordance to Section 7-10.5.2.

7-10.4.1.6 Emergencies

Add the following subsection:

In the event of emergencies affecting the safety or protection of persons or the Work or property at or adjacent to the Site, the Contractor, without special instruction or authorization from the Engineer, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall provide prompt written notice to the Engineer if the Contractor has determined that significant changes in the Work have resulted due to the action taken in response to an emergency.

7-10.5 Security and Protective Devices

Is amended as follows:

7-10.5.3 Steel Plate Covers

Add the following:

Steel plates shall be skid resistant type and placed recessed flush to finish roadway surface. The pavement shall be milled/cold-planed to provide a depth, width and length necessary to place the steel plate cover.

Steel plate covers shall be manufactured in accordance to ASTM A-36, "Carbon Structural Steel" and designed for HS20-44 truck loading per the Caltrans Bridge Design Specifications Manual and shall extend a minimum of twelve inches (12") beyond the edges of the trench and to any additional width as required by the Engineer due to the depth of trench and/or soil conditions. Trenches shall be adequately shored to support the bridging and traffic loads.

See Table 7-10.5.3 (A) for the advisory minimal thickness of steel plate cover bridging required for trench work.

Table 7-10.5.3 (A) – Trench Width / Minimum Plate Thickness

Trench Width	Minimum Steel Plate Thickness
10"	One-half inch (1/2")
1'-11"	Three-quarters inch (3/4")
2'-7"	Seven-eighths inch (7/8")
3'-5"	One inch (1")
5'-3"	One & three-quarters inch (1-3/4")
Greater than 5'-3"	(Requires Engineered design)

Contractor shall submit to the City for approval, working drawings of the planned Steel Plate Covers to be utilized for the project. The plan shall show the dimensions of all steel plate covers, steel plate thickness, the location for their installation, any connections and the sized a spacing of all necessary members.

For temporary steel plate covers whose spans are greater than 5'-3" (63"), a structural design with structural calculations including a shoring system shall be prepared by a State of California licensed Civil or Structural Engineer. Additional structural calculations are not required for previously approved steel plate cover designs which utilized the same span, trench depth, soil conditions, and application previously approved for the same project. The steel plate cover design shall be submitted in accordance to Section 2-5.3 "Submittals".

Steel plate covers used in the traveled way shall have a skid resistant surface that was manufactured with a nominal Coefficient of Friction (COF) of 0.35 as determined by California Test Method 342.

All steel plate covers shall provide complete coverage to prevent any person, bicycle, motorcycle or motor vehicle from being endangered due to steel plate cover movement causing separation or gaps.

Unless specifically stated in the Special Provisions or approved by the Engineer:

- a. The installation of steel plate covers SHALL NOT exceed four (4) consecutive working days in any given week.
- b. The installation of steel plate covers SHALL NOT exceed fifty lineal feet (50') in length.

The Contractor is responsible for maintaining the steel plate cover, their skid resistance, their connection to any shoring system, the temporary asphalt concrete transition ramps and ensuring the steel plate covers meet minimum specifications. All steel plate covers shall be without deformation. The trueness of a steel plate cover shall be determined by the use of a straight edge. Any steel plate covers found to be permanently deformed shall be rejected and removed from the right-of-way.

The Contractor shall immediately mobilize necessary personnel and equipment and materials necessary after being notified by the City, any emergency service agency, or

the member of the public of a repair need. This includes but is not limited to plate movement, noise plate anchors, temporary cold mix asphalt, and the transition of the steel plate cover and the existing roadway, parking area, and sidewalk. Failure to respond to the emergency request within two (2) hours of initial attempt to contact the Contractor shall be grounds for the City to perform necessary repairs with all actual costs necessary to perform the work being withheld from the Contractor's future payment or from the project retention at the sole discretion of the City. Lack of Contractor conformance to maintain steel plate covers shall be automatic grounds for suspension of work.

Payment for Steel Plate Covers shall be included in the unit price bid for all major items of work which require the placement of steel plate covers.

7-10.5.4 Shoring, Falsework and Concrete Forms

Add the following subsection:

The Contractor and all subcontractors shall comply with the requirement of §1717 of the Construction Safety Orders, State of California, Department of Industrial Relations, regarding the design inspection of concrete form, falsework and shoring before the placement of concrete. When required by §1717 the Contractor must employ a registered civil engineer for the design calculation and working drawings of the falsework or shoring system or the inspection of such systems prior to the placement of concrete. Payment shall be included in the unit price bid for the applicable items of work.

7-15 PROJECT SIGNS

Add the following subsection:

7-15.1 General

Project signs shall be placed 7 days prior to the start of work for each roadway location, shall be maintained during the entire duration of the project, and removed upon completion of the work. Draft sign shall be submitted to the Engineer for approval prior to manufacture and placement. Location shall be determined by the Engineer.

7-15.2 Park Site and Facility Project Signs

Contractor shall provide 1 project signs for work. Project sign shall be 4' x 8' mounted on two 4x4 posts. The signs shall be white with black lettering not less than 2-inches in height. Sign shall state the following:

"Project Name"
Your Tax Dollars at Work

"start date" to "end date"

"Project Cost"
"Contract Working Hours"
"City Council Member Names"

7-15.3 Payment

Payment for project signs shall be included in the lump sum price bid for “**Mobilization**” and shall include all labor, equipment, materials, and tools necessary to complete the work.

7-16 RECORD DRAWINGS

Add the following subsection:

7-16.1 General

During the progression of all work, the Contractor shall prepare and maintain accurate record drawing of the work. All changes to the work from the original contract drawings shall be clearly marked in red ink and shall accurately show those changes whether added or deleted from the original design contract drawings. The Contractor shall update and maintain record drawings at all times during the progression of work and be available for review by the Engineer or Inspector at all times.

For all landscape irrigation work, the Contractor shall provide measurements of all mainline piping from fixed locations such as sidewalks, curbs, fences, etc. All irrigation angle points, tees, or reducers shall be clearly tied off to not less than 2 fixed objects. All items shall be measured with an accuracy to the nearest inch.

The Contractor shall finalize record drawings within 14 working days from completion of all work and submit to the Engineer for review and approval.

7-16.2 Surveying for Record Drawing Preparation

The Contractor shall obtain final as-built elevations for the following items by State of California issued licensed Land Surveyor:

Sewer Manholes/Cleanouts	Manhole rim and invert elevation
Storm Drain Inlets:	Top of curb/grate and invert elevation
Storm Drain Cleanouts:	Manhole rim and invert elevation
Storm Drain Headwalls:	Inlet and outlet flow line elevation
Building Pads:	Finish grade of building pad at corner points.

7-16.3 Incomplete Record Drawings

Failure by the Contractor to provide record drawings to the Engineer within seven (7) working days from written request by the City shall result in the City causing the completion of the record drawings. All costs incurred by the City to cause completion of the record drawings for all necessary field measurements, survey work, subsurface explorations, will be withheld from the final payment or retention release to the contractor. Should the remaining amount due to the contractor be less than that necessary for the completion of the record drawings, the City will file a claim against the performance bond to cause completion of the record drawings.

7-16.4 Payment

Payment for the preparation of Record Drawings shall be included in the bid items and shall include all labor, materials, equipment, tools, and incidentals necessary including the cost of reproduction for final submittal to the City, all required surveying, and necessary field measurements.

7-17 NOTIFICATION AND COORDINATION

Add the following subsection:

7-17.1 Agency Coordination

The Contractor shall provide 5 working days advance notification to all affected agencies due to the work and/or and traffic control implementation. Affected agencies may include but not limed to the following:

City Departments / County Agencies:

1. Santee City Hall: (619) 258-4100
2. San Diego County Sheriff, Santee Station: (619) 956-4000
3. San Diego County Sheriff, Communications: (858) 565-5200
4. Santee Fire Department Administration: (619) 258-4150
5. Santee Fire Station No. 4 (Cottonwood Ave): (619) 258-4151
6. Santee Fire Station No. 5 (Carlton Oaks Drive): (619) 258-4120
7. Metropolitan Transit System (MTS): (619) 595-7032

School Districts:

1. Santee School District: (619) 258-2337
2. Santana High School: (619) 448-5500
3. West Hills High School: (619) 956-0400

Others:

Provided for additional contacts designated for the Contract

- | | |
|----------|------------|
| 1. _____ | () _____. |
| 2. _____ | () _____. |
| 3. _____ | () _____. |
| 4. _____ | () _____. |

7-17.2 Businesses and Residential Notification

All affected businesses and residences shall be notified by the Contractor. The City will provide the Contractor a form letter to be distributed to residents and/or businesses that will be affected by the work. The letter shall state actual days and dates of construction. A date range of work is not acceptable. The Contractor shall be responsible for reproduction and distribution of all letters. Notice shall be delivered five (5) calendar days in advance to each business and/or residence prior to the start of construction on each street that affects parking and/or access. Each condominium and/or apartment unit shall also receive notifications. Re-notification shall be required if the Contractor's schedule is altered and/or other delays occur which affect the project's schedule. A door

hanger may also be used in lieu of the letter, provided the same information is contained on the door hanger. The cost of reproduction and distribution of letters or door hangers shall be included in the major bid items of work.

The Contractor shall provide a notice in advance with each aspect of work, including but not limited to, asphalt patching, concrete work, storm drain construction, slurry seal, chip seal and asphalt overlays.

7-17.3 Trash Service Notification and Coordination

Contractor shall notify the Waste Management Service at (619) 596-5100 of the schedule work at least 5 business days in advance of the work. Road closures shall not be permitted which prohibit the pickup of Trash Services unless otherwise approved by the Engineer and scheduled with affected trash service companies. Contractor shall not place any roadway seal coatings within 48 hours before regular scheduled trash pickup schedule.

7-18 ENVIRONMENTAL MITIGATION MEASURES

Add the following subsection:

7-18.1 Biological Mitigation Measures

7-18.1.1 Biological Awareness Training

All construction personnel shall attend biological awareness training prior to working within the project area. The City's qualified project biologist will administer the training at the start of construction. The biological awareness training will include a description of special status species and habitats that may be encountered within the project vicinity, and identify required mitigation measures.

7-18.1.2 Encounters with Special Status Wildlife

If any special status wildlife is encountered during the course of construction, work within the vicinity of the wildlife shall stop. Work in the vicinity of the wildlife shall not recommence until the wildlife has been relocated by a qualified biologist, or has left the construction area of its own volition. The City, or a representative of the City, shall contact the California Department of Fish and Wildlife to determine the appropriate methods of relocation.

7-18.1.3 The Nesting Season

The nesting season is defined as spring and summer months - February 1st through August 21st. During this time, construction activities, including vegetation removal will not be permitted within 150 feet of riparian vegetation along the San Diego River when yellow-breasted chat, Southwester willow flycatcher, and least Bell's vireo have migrated in to San Diego County.

Vegetation removal and earthwork should be performed outside of the nesting season. If vegetation removal is required during the nesting season, a pre-construction nesting bird survey must be conducted by the City's project biologist within 7 days prior to

vegetation removal. Within two weeks of the nesting bird survey, all vegetation cleared by the biologist shall be removed by the Contractor.

A minimum 100-foot no-disturbance buffer shall be established around any active nest of migratory birds and a minimum 300-foot no-disturbance buffer shall be established around any nesting special status or raptor species. The Contractor must immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that may disturb the birds, as determined by the project biologist and in coordination with wildlife agencies, within the buffer area until a qualified biologist determines the young have fledged. A reduced buffer may be established if determined appropriate by the project biologist and approved by the California Department of Fish and Wildlife.

7-18.1.4 Preconstruction Surveys

7-18.1.4.1 Special Status Bats

Prior to all vegetation removal, all trees and shrubs within the project area that must be removed shall be inspected by the project biologist to determine if tree cavities suitable for special status bats are present. The Contractor shall notify the City's project biologist at least seven working days in advance of scheduled vegetation removal. If tree cavity habitat is observed, trees would be removed by first removing as much foliage and small branches as possible while leaving large branches and tree cavities intact to encourage bats to relocate. Trees shall be left in this condition for twenty four hours and then shall be completely removed.

If any special status bat species are discovered during the preconstruction surveys, the City's project biologist shall contact the California Department of Fish and Wildlife to determine further avoidance and minimization measures.

7-18.1.4.2 Woodrats

Impacts to occupied woodrat middens shall be avoided. Middens located at the boundary of riparian vegetation shall be protected in place by designating the area an environmentally sensitive area (ESA) and installing high-visibility fencing around the middens if construction personnel or equipment encroach within 20 feet. ESA fencing shall be installed a minimum of 5 feet from the outer boundary of the midden, and construction activities will not be permitted within the ESA.

If disturbance of an occupied midden cannot be avoided, middens shall be passively relocated under the supervision of the City's project biologist. Passive relocation shall begin by trimming all understory vegetation from the area surrounding the midden to encourage the woodrats to self-relocate. The following day, the midden would be removed by hand by the City's project biologist. Sticks from the midden would be piled at the base of a tree in similar habitat less than 100 feet from the original midden to allow the woodrat to reuse the material. If possible, midden relocation should occur from August to October when female woodrats are unlikely to have dependent offspring.

7-18.1.4.3 Nesting Birds

Vegetation removal and earthwork should be performed outside of the nesting season. If vegetation removal is required during the nesting season, a pre-construction nesting bird survey must be conducted by the City's project biologist within 7 days prior to vegetation removal. Within two weeks of the nesting bird survey, all vegetation cleared by the biologist shall be removed by the Contractor.

7-18.1.5 Environmentally Sensitive Area (ESA)

The outer boundaries of the construction area in proximity to jurisdictional waters shall be designated an Environmentally Sensitive Area (ESA) and fenced with orange, high visibility fencing. No construction equipment, construction personnel, or construction debris shall be permitted beyond this fencing. Installation of the fencing shall be supervised by the City's project biologist.

7-18.1.5.1 Temporary ESA Fence

High Visibility Fabric

High visibility fabric shall be machine produced mesh manufactured from polypropylene or polyethylene and shall be orange in color. High visibility fabric may be virgin or recycled polymer materials, or a combination of virgin and recycled polymer materials. No virgin or recycled polymer materials shall contain biodegradable filler materials that degrade the physical or chemical characteristics of the finished fabric. High visibility fabric shall be fully stabilized ultraviolet (UV) resistant. High visibility fabric shall be a minimum of 4 feet in width with a maximum mesh opening of 2 inches x 2 inches. High visibility fabric shall be furnished in one continuous width and shall not be spliced to conform to the specified width dimension.

Posts

Posts for temporary ESA fence shall be of one of the following:

- A. Posts shall be fir or pine, a minimum of 1-1/2 inches x 2 inches in size, and a minimum 5 foot, 3 inches in length. One end of the post shall be pointed. Posts shall not be treated with wood preservative.
- B. Posts shall be steel and have a "U", "T", "L" or other cross sectional shape that resists failure by lateral loads. Steel posts shall have a minimum mass per length of 0.74 Lbs./ft. and a minimum length of 5 foot, 3 inches. One end of the steel post shall be pointed and the other end shall have a high visibility colored top.

Fasteners

Fasteners for attaching high visibility fabric to the posts shall be as follows:

- A. The high visibility fabric shall be attached to wooden posts with commercial quality nails or staples, or as recommended by the manufacturer or supplier, as determined by the Engineer.
- B. Tie wire or locking plastic fasteners shall be used for attaching the high visibility fabric to steel posts. Maximum spacing of tie wire or fasteners shall be 2 feet along the length of the steel post.

Installation

Temporary ESA fence shall be installed as follows:

- A. Posts shall be driven into the soil a minimum of 1 foot, 4 inches. Posts shall be spaced at 6 foot, 7 inches centers minimum and shall at all times support the fence in a vertical, upright position.
- B. Temporary ESA fence shall be constructed prior to any clearing and grubbing work and a sufficient distance from protected plants to enclose all of the foliage canopy and not encroach upon visible roots of the plants.
- C. Temporary ESA fence shall be located to be unobstructed from view, as determined by the Engineer.

When no longer required for the work, as determined by the Engineer, temporary ESA fence shall be removed. Removed temporary ESA fence shall become the property of the Contractor and shall be removed from the site of the work, except when reused as provided in this section.

Holes caused by the removal of temporary ESA fence shall be backfilled with native material.

Maintenance

Temporary ESA fence that is damaged during the progress of the work shall be repaired or replaced by the Contractor the same day the damage occurred.

If, during the course of construction, flood stage flows are predicted along this reach of the San Diego River, the ESA fencing must be removed from the San Diego River floodplain to prevent the ESA fencing from washing downstream. ESA fencing must be reinstalled prior to reinitiating work in proximity to the San Diego River.

7-18.2 Cultural Resource Mitigation Measures

7-18.2.1 Cultural Resource Awareness and Sensitivity Training

Prior to starting construction, cultural resource awareness and sensitivity training shall be provided to all construction personnel to ensure that the personnel are aware of the potential for sensitive cultural resources to be present onsite. The awareness and sensitivity training shall include established protocol for informing the resident engineer of any accidentally discovered cultural resources.

An Archaeological Resources Discovery Plan will be provided by the City's project archaeologist, which will detail the protocols regarding monitoring, work cessation after archaeological resource discovery, archaeological resource documentation and analysis, significance determination, mitigation for significant resources, consultation and notification processes, curation for significant historic-era archaeological resources, and appropriate reporting efforts.

7-18.2.2 Archaeological Monitoring

Both a Native American monitor and an archaeological monitor shall be present during clearing and grubbing and initial ground-disturbing activities. The Contractor shall retain an archaeological monitor and notify both the monitor and Native American monitor at least seven working days prior to clearing and grubbing and initial ground-disturbing activities. The Native American monitor may elect to reduce monitoring efforts should it be determined that further ground disturbing activities would have a low potential to impact buried cultural resources.

7-18.2.3 Discovery of Archaeological Resources

If significant historical, paleontological, archaeological, or tribal cultural resources are discovered within the Area of Potential Effect (APE), the Contractor shall suspend all ground disturbing activities within 100 feet around the resource(s). The archaeological monitor, a representative of the appropriate Native American Tribe(s) (if discovery is prehistoric), and the City shall confer regarding mitigation of the discovered resource(s). All discovered archaeological resources shall be documented by field notation, analysis, photography, and GPS mapping. Work shall not resume in the area until mitigation has been completed or it has been determined that the archaeological resource(s) is not significant.

7-18.2.4 Discovery of Human Remains

If human remains are encountered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98 and in accordance with State Health and Safety Code Section 7050.5. The County Coroner must be notified of the discovery immediately. If the remains are determined to be prehistoric, the Coroner shall notify the Native American Heritage Commission (NAHC), which would determine and notify a Most Likely Descendant (MLD). With permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

7-18.2.5 Discovery of Native American Cultural Resources

In the event that Native American cultural resources are inadvertently discovered during the course of constructing this project, the City shall relinquish ownership of all Native American cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to Native American cultural resources. Prior to relinquishment, all discovered

archaeological resources shall be documented by field notation, photography, and GPS mapping. After consultation with the appropriate Native American Tribe(s), non-destructive analysis may be conducted.

7-18.3 Payment

Payment for “**Archaeological Monitoring**” shall be paid for on a lump sum basis and shall include archaeological monitoring during initial clearing and grubbing and ground disturbing activities, including the retention and coordination with a qualified archaeologist, coordination with the Native American monitor, the City or the City’s representatives, documentation of monitoring results, and all related items necessary to comply with the required archaeological monitoring outlined within this specification.

Payment for “**Archaeological Discovery**” shall be paid for on an each basis per discovery of cultural resource. Payment shall be issued only if cultural resources are discovered during normal construction activities and shall include establishing necessary buffers, retention and coordination with a qualified archaeologist, coordination with Native American tribal representative, County Coroner, and City or the City’s representatives, removal and analysis of the resource, documentation, photography, GPS mapping, and all related items necessary to comply with the protocol outlined within this specification.

Payment for “**Biological Monitoring**” shall be paid for on an each basis per encounter with special status wildlife or actively nesting birds. Payment shall be issued only if special status wildlife or nesting birds are encountered and shall include relocation of the wildlife, establishment of no-disturbance buffer, retention and coordination with a qualified biologist, coordination with the City, or the City’s representatives, and all related items necessary to comply with the protocol outlined within this specification.

Payment for “**Temporary ESA Fencing**” shall be measured and paid for on a linear foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in installing temporary ESA fence complete and in place, including maintenance and removal and disposal of materials, and backfilling and repairing holes, depressions, and other ground disturbances.

Payment for pre-construction Biological Awareness Training and Cultural Resources Awareness and Sensitivity Training, and coordinating and notifying the City’s project biologist and archaeologist of construction activities requiring supervision or pre-construction surveys shall be included in the lump sum bid price for “**Mobilization**” and no additional compensation will be made therefore.

SECTION 8 – FACILITIES FOR AGENCY PERSONNEL

Delete this section and replace with the following:

8-1 GENERAL

Add the following:

Separate facilities for City personnel are not required for the contract. If provided, the Contractor's onsite trailer/facility shall provide sufficient space to hold an onsite field meeting and shall accommodate the Contractor's staff, subcontractor staff and up to 4 City staff members.

SECTION 9 - MEASUREMENT AND PAYMENT

Is amended as follows:

9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK

9-1.2 Methods of Measurement

Add the following:

Measurement shall be in English units as shown on the bid schedule.

9-2 LUMP SUM WORK

9-2.1 Schedule of Values (SOV)

Add the following subsection:

Contractor shall submit a schedule of values for the lump bid items of the Work to the Engineer for review and approval prior to the start of work. The schedule of values shall:

1. Subdivide the Work into its respective parts
2. Include values for all items comprising the work
3. Break down the Work not specifically included in the Bid as necessary for establishment of cost and schedule activity
4. Serve as the basis for monthly progress payments

The Engineer shall be the sole judge of the acceptable numbers, details, and description of values established. If, in the opinion of the Engineer, a greater number of items than those proposed by the Contractor are necessary, the Contractor shall add the additional items so identified by the Engineer. When requested by the Engineer, the Contractor shall provide substantiating data in support of the SOV.

In the event the Contractor and the Engineer agree to make adjustments to the original SOV because of inequities discovered in the original accepted SOV, increases and equal decreases to values for activities shall be made.

9-2.2 Payment

Payment for the preparation of the schedule of values shall be included in the unit price bid for **"Mobilization"**.

9-3 PAYMENT

9-3.1 General

Add the following paragraph:

Payment will not be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefor shall be included in the prices named in the Bid Schedule for the various appurtenant items of work.

Partial payment will not be made for any incomplete item of work unless the item of work is a lump sum bid item in the proposal with a value in excess of \$10,000.00. Items of work that are measured as square footage, linear footage, cubic yards, etc. may be

billed as portions of the work are completed in accordance with the requirements of the bid item description.

At the expiration of 35 calendar days from the date of filing the Notice of Completion and upon receipt by the Engineer of a fully executed Release of Claims. The total amount deducted from the final estimate, and retained by the City will be paid to the Contractor except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment.

9-3.2 Partial and Final Payment

Add the following:

Delete first three paragraphs and substitute following:

1. The Contractor shall submit, to the Engineer, a written progress estimate of the work completed in accordance to Section 9-3.2.1 "Application for Progress Payment". From each progress estimate, five percent (5%) will be deducted and retained by the City, until at the expiration of 35 days after the acceptance of the Work by the City Council, or as prescribed by law, the amount deducted from the final estimate and retained by the City will be processed for payment to the Contractor, except for such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

If in the opinion of the Engineer the Work progress is not acceptable, the City may deduct and retain 10% from each progress payment. After 50% of the Work has been completed and if progress on the Work is satisfactory, the total retention held may be limited to 10% of the first half of the total contract price.

Acceptance of any progress payment accompanying any estimate without written protest shall be an acknowledgement by the Contractor that the number of accumulated contract days shown on the associated statement of working days is correct. Progress payments made by the City to the Contractor after the completion date of the Contract shall not constitute a waiver of liquidated damages.

Partial payments made after the Contract completion date will reflect the amount withheld for liquidated damages as require by Section 6-9, "Liquidated Damages." Any such partial payments made to the Contractor, or its securities, will not constitute a waiver of the City's liquidated damages.

2. The final payment of five percent (5%) of the value of work done under this Contract retained by the City, if unencumbered, shall be made within sixty (60) calendar days after the date of completion of the work, provided however, that in the event of a dispute between the City and the Contractor, the City may withhold from the final payment an amount not to exceed one hundred and fifty percent (150%) of the disputed amount. Completion means any of the following as provided by Public Contract Code section 7107:

- a. The occupation, beneficial use, and enjoyment of a work of improvement, excluding any operation only for testing, startup, or commissioning, by the public agency, or its agent, accompanied by cessation of labor on the work of improvement.
 - b. The acceptance by the public agency, or its agent, or the work of improvement.
 - c. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 100 calendar days or more, due to factors beyond the control of the Contractor.
 - d. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 30 calendar days or more, if the public agency files for record a notice of cessation or a notice of completion.
3. This Contract is subject to the provisions of Public Contract Code section 7107.
 - a. For purposes of this Contract, the acceptance by the City means acceptance made only by an action of the governing body of the City in session. Acceptance by Contractor of said final payment shall constitute a waiver of all claims against the City arising from this Contract.
4. The City shall, after the satisfactory completion of the work, make a final estimate of the amount of Work done thereunder and the value of said work, and the City shall pay the entire sum so found to be due after deduction therefrom all previous payments and all amounts to be retained under the provisions of the Contract Documents, provided that a release of liens and claims has been received from the Contractor pursuant to Civil Code Section 3262. All prior partial estimates and payments shall be subject to correction in the final estimate and payment. The final payment shall not be due and payable until the expiration of thirty-five (35) calendar days from the date of acceptance of the work by the City, which acceptance shall be by formal action of the City Council.
 - a. No certificate given or payments made under the Contract, except the final certificate or final payment shall be evidence of the performance of the Contract, either wholly or in part, and no payment shall be construed to be an acceptance of any defective work or improper materials.
5. Neither Final Payment nor any final release of retention will become due until the Contractor submits to the Engineer:
 - a. An affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the City or the City's property might be responsible or encumbered, less amounts withheld by the City, have been paid or otherwise satisfied;
 - b. A certificate evidencing that insurance required by the Contract Documents to remain in force after Final Payment is currently in effect and will not be canceled or allowed to expire until at least 30-day prior written notice has been given to the Engineer;

- c. Consent of Surety to Final Payment; and
- d. If required by the Engineer, other data establishing payment or satisfaction of obligations, such as receipts, releases and waiver of liens, claims, security interests or encumbrances arising out of the Contract Documents. If a Subcontractor refused to furnish a release or waiver required by the City, the Contractor may furnish a bond satisfactory to the City to indemnify the City against such lien; and
- e. The Contractor has completed the Work, and provided the required record drawings, operation manuals, test reports, warranty documentation, and all other required documents as determined by the City.

9-3.2.1 Application for Progress Payment

Add the following subsection:

By the 10th day of each month, the Contractor shall prepare and submit to the Engineer a partial payment estimate that identifies acceptable Work performed during the previous month, or since the last partial payment estimate was submitted. If requested by the Engineer, the Contractor shall provide such additional data as may be required to support the payment estimate. Such data may include satisfactory evidence of payment for equipment, materials, labor including payments to subcontractors and suppliers.

The Contractor shall use the format required by the City for the application for progress payment. An electronic copy of the invoice form is available from the Engineer upon request.

Any payment request that is disputed or determined to be improper will be returned to the Contractor no later than 10 calendar days from receipt accompanied by documentation by the Engineer describing the reason(s) which the payment request is not proper.

The City will not pay progress or partial payments until the Contractor has submitted to the Engineer an updated schedule. It is the Contractor's sole responsibility to prepare and submit the schedule update.

9-3.2.2 Amount of Progress Payment

Add the following subsection:

If an undisputed and properly submitted application for payment is received by the Contractor, the City will pay the approved amount within 30 days. The City will pay the Contractor for Work performed, including payment for any stored materials, through the period covered by the application for payment, less retention as set forth in the Contract Documents.

9-3.2.3 Withholding of Payment

Add the following subsection:

The Engineer may withhold payment on account of an application for payment to the extent necessary to protect the City from loss or additional unwanted expenses due to the following:

- a) Defective or incomplete Work not remedied;
- b) A deductive change order;
- c) Third party claims filed or reasonable evidence indicating probable filing of claims;
- d) Damage to the City or a Separate Contractor caused by the Contractor or neglect to the extent not covered by insurance;
- e) Reasonable evidence that the Work will not be completed within the Contract Time due to inexcusable delay, and that the unpaid balance of the Contract Price would not be adequate to cover Liquidated Damages for the anticipated or actual unexcused delay;
- f) The persistent failure by the Contractor to perform Work in accordance with the Contract Documents, including failure to maintain the progress of the Work in accordance with the schedule. Persistent failure to maintain the progress of the Work means that for a period of 2 consecutive months following a written notice from the Engineer, you fail to correct a behind-schedule condition at a rate that would reasonably indicate that you will finish the Project on schedule;
- g) Disregard of authority of the Engineer or the laws of any public body having jurisdiction;
- h) Stop notices, wage orders, or the withholding required by Applicable Law;

When all the above reasons for withholding payment are removed, payment will be made for amounts previously withheld on the next progress payment or final payment. Prior to any withholding pursuant to this section, the Engineer may meet with the Contractor to discuss potential withholding, and attempt in good faith to resolve such issues without the need for withholding.

9-3.2.4 Waiver of Claims at Final Payment

Add the following subsection

The Contractor's acceptance of Final Payment constitutes a waiver of affirmative Claims by the Contractor, except those previously made in writing and identified as unsettled at the time of Final Payment, which are expressly reserved by the Contractor from operation of its Release of Claims pursuant to Public Contract Code Section 7100 or Applicable Law.

9-3.3 Delivered Materials

9-3.3.1 Payment for Stored Materials

Add the following subsection:

The Contractor may request payment for materials and equipment which will be incorporated into the Work and are delivered to the Project or stored in or near the Site which meet the following requirements:

- a) The material or equipment meets the Contract requirements and all required test results and certifications have been provided to the Engineer.
- b) The materials are only non-perishable items and shall not include landscape planting materials.
- c) Material cost must be evidenced by the manufacturer's paid invoice bearing the statement that the Contractor has paid all previous invoices.
- d) The payment for stored materials on hand shall not exceed the invoice price or 60% of the bid prices for the pay items into which the materials are to be incorporated, whichever is less unless otherwise approved by the Engineer.
- e) The Contractor shall provide the Engineer, upon request and prior to any partial payment, documentation which transfers absolute legal title to such materials to the City conditional only upon receipt of Final Payment. Neither such transfer of title nor any partial payment shall constitute acceptance by the City of the materials, nor void the right to reject materials subsequently found to be unsatisfactory in accordance with 4-1, "Materials and Workmanship" or in any way relieve the Contractor of any obligation arising under the Contract Documents.
- f) The payments for stored materials are subject to retention as set forth in Section 9-3.2, "Partial and Final Payment".
- g) The Contractor shall assume all risks associated with the loss or damage to the stored products for which payment has been received or not.
- h) Equipment and material shall be stored in accordance with the manufacturer's recommendations. The stored products shall be in a form ready for installation. The City will not pay for raw materials or parts and pieces of equipment.
- i) Any and all surplus materials that are not incorporated into the Work will become the Contractor's property of no additional cost to the City and shall be removed from the site at the Contractor's expense with no additional cost to the City.
- j) Payment for materials on hand shall not be included when determining the percentage of Work Completed.

9-3.3.2 Payment for Stored Materials Off-Site

- a) The City reserves the right to refuse approval for payment for any equipment and materials suitably stored off-site in its sole discretion, regardless of whether all conditions set herein have been met.
- b) Payment for materials and equipment delivered and stored off-site shall be contingent upon the Contractors compliance with the storage and protective maintenance requirements set forth in the Contract Documents and all other requirements necessary to preserve equipment warranties from the benefit of the City.
- c) The costs associated with the delivery to and storage at an off-site facility shall be borne by the Contractor regardless of the Engineer's approval to deliver and store the materials.
- d) Material and equipment shall be clearly marked and identified as being specifically fabricated, produced and reserved for use on the Project.

9-3.4 Mobilization

Add the following:

Mobilization consists of all work necessary for the movement of personnel, equipment, supplies and incidentals to and from the Site for establishment of all offices, buildings, storage yards, and other facilities necessary for the Work, and for all other work and operations which will be performed prior to the beginning of work, those works items not directly attributed to any specific bid item, and those work items after completion of the Work on the various contract items on site.

The Contractor shall properly design the Project parameters to incorporate construction mobility for moving on and off the Site in a manner that limits disturbance to the surrounding residences, businesses and any other persons. This includes the designated staging areas, loading areas, and assemblage areas. The Contractor must consider and address access rights of the public at all times by preparing a "mobilization plan" that will describe and govern mobilization activities.

The complete dismantling and removal of the Contractors properties, temporary facilities, equipment, materials, construction waste and personal at the Site, sometimes referred to as demobilization, shall be included in the payment for "**Mobilization**".

9-3.4.1 Payment

Add the following subsection:

Payment for "**Mobilization**" shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools, and incidentals necessary to complete the work. Payment shall include but not limited to; contract bonds, insurance, field office's & facilities, temporary utility services, project signs, preparation of construction schedules, moving and removing of equipment, preparation of submittals, preparation of operation and maintenance manuals, coordination with agencies, tribes, and City project biologists/archaeologists, Biological

and Cultural Resources and Awareness training, preparation of warranties and demobilization.

If the bid item for mobilization exceeds 5% of the total Contract amount, any such amount above the 5% of the total Contract amount, will be paid as part of the final payment. If a separate bid item for mobilization is not provided in the bid schedule, the payment for mobilization shall be included in the various bid items.

9-3.5 Field Directed Changes

Add the following subsection:

Payment for “**Field Directed Changes**” shall be paid for on a lump sum basis for each field order issued to the Contractor. This mandatory bid amount included in the bid proposal shall be for additional work at agreed upon unit prices when no such bid item is provided for the additional work. This bid item shall be used at the sole discretion of the Engineer for field directed changes. Contractor is not entitled to any amount of the bid item unless a formal Field Directed Change or Change Order has been issued to the Contractor in writing. Any remaining amount of this bid item which has not been issued to the Contractor shall be deducted from the contract.

9-3.6 Proposal Pay Items

Add the following subsection:

Only items in the Proposal are Pay Items. Other specification items will be complied with; however, their measurement and payment provisions are hereby deleted.

The price bid shall cover all work required by the contract documents. All costs in connection with the proper and successful completion of work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction plant openings, tools, all taxes and performing all necessary labor and supervision to fully complete the work, shall be included in the unit and lump sum prices bid. All work not specifically set forth as a pay item in the Proposal shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.

Work that is subsidiary to Proposal Pay Items includes, but not limited to, removal of waste material from the site, all disposal fees, replacement of damaged private property, damaged pavement markings, markers and/or striping outside of work limits, damaged landscaping and irrigation systems, clean up and all other work required to complete the project and restore the areas of construction to their preconstruction condition.

9-4 WAIVER OF CLAIMS

Add the following subsection:

The Contractors acceptance of the Final Payment of undisputed Contract amounts released the City, the Engineer, and any Consultants acting as the City’s agent, from all claims and all liability to the Contractor fall all things done or furnished in connection with the Work, and every act of the City and others relating to or arising out of the Work and related to those undisputed amounts. No payment, however, final or otherwise, will

release the Contractor and the Surety from obligations under the Contract and the Performance Bond, Payment Bond and any other bonds and warranties as herein provided.

PART 2 CONSTRUCTION MATERIALS

Is amended as follows:

SECTION 200 - ROCK MATERIALS

200-1 ROCK PRODUCTS

200-1.2 Crushed Rock and Rock Dust

Add the following:

Crushed rock for storm drain shall be 3/4-inch in diameter per table 200-1.2 (A).

200-1.6 Stone for Riprap

200-1.6.1 General

Delete the first sentence and replace with the following:

Stone for riprap shall be quarry stone or decorative landscape cobble conforming to Section 800-1.8, as noted on the drawings. Broken concrete will not be accepted.

200-1.6.2 Grading Requirements

Stone size for rip rap shall be as shown on the drawings.

200-2 UNTREATED BASE MATERIALS

200-2.1 General

Delete the first paragraph and replace with the following:

Materials for use as untreated base shall be classified as one of the following:

- a) Crushed Aggregate Base
- b) Crushed Miscellaneous Base
- c) Pulverized Miscellaneous Base
- d) Class II Base per the Caltrans Standard Specifications, latest edition.

200-2.7 Disintegrated Granite

Delete this section and replace with the following:

Disintegrated granite (DG) shall be free from vegetable matter and all other deleterious substances and shall be of such a nature that it can be compacted readily under water and rolling equipment to form a firm stable surface.

Disintegrated granite shall meet the following sieve analysis (Caltrans 202):

<u>Sieve Size</u>	<u>% Passing</u>
2" (12.5mm)	100
3/8" (9.5mm)	97
No. 4 (4.75mm)	78
No. 8 (2.36mm)	61
No. 16 (1.18mm)	46
No. 30	33
No. 50	23
No. 100	15
No. 200	9

The R-value shall be a minimum of 73 per California Test Method No. 301
The San Equivalent shall be a minimum of 30 per California Test Method No. 217.

Stabilized Disintegrated Granite - Type 1 shall be 'Desert Gold' by KRC Rock (800-572-7625) or approved equal. Stabilizer organic binder shall be incorporated with granite fines by the use of a pug mill that includes a weight belt feeder to insure proper rationing of stabilizer to granite fines (12 pounds per ton of granite fines.)

Disintegrated Granite - Type 2 shall be 'Baja Brown' by KRC Rock (800-572-7625) or approved equal.

Contractor shall submit one 5-lb sample of each disintegrated granite type to the City prior to delivery of the material to the site.

The Contractor shall provide product data and testing information to confirm that material contains the binder materials at rates as recommended by the manufacturer.

200-2.9 Permeable Base

Add the following subsection:

200-2.9.1 General

Permeable material shall be 100% fractured by mechanical means. Materials shall be clean of material fines with particles smaller than 1/4" by manufactured means. Rounded sands are prohibited. Permeable base materials shall be placed in compacted layers not less than 6" thick. Soft limestone and shale materials are not permitted.

200-2.9.2 Infiltration

Permeable base shall infiltrate an amount to exceeding 40 gallons/hour/square foot of vertical water passing through the permeable base material.

200-2.9.3 Testing

Permeable base shall be submitted to the City for approval prior to order and/or installation. Third party testing shall be provided by a licensed material testing firm

which certifies that the pervious base material meets and/or exceeds the drainage properties required of this section.

200-2.9.4 Grading

The percentage composition by weight of permeable material in place must comply with the combined grading requirements shown in the following table:

Permeable base shall be washed Class 2 as listed below:

200-2.9.4.1 Class 2 Permeable Base

Sieve Size	Percentage Passing Sieve
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

Class 2 permeable base shall have a sand equivalent value of not less than 75.

SECTION 201 - CONCRETE, MORTAR AND RELATED MATERIALS

201-2 REINFORCEMENT FOR CONCRETE

201-2.2 Steel Reinforcement

201-2.2.3 Welded Wire Reinforcement

Add the following:

Welded wire mesh reinforcement shall be 6" x 6" square, 10 gauge.

201-2.5 Slip Dowel and Dowel Sleeve

Add the following subsection:

201-2.5.1 General

Slip Dowel and Dowel Sleeves shall be self-locking, 100% polypropylene, with a minimum compressibility of 5,500 PSI per ASTM D 695 or approved equal. Reinforcing bars shall be sawn and not sheared to provide for smooth clean ends that will not adversely affect the slip dowels and dowel sleeves.

201-2.5.2 Slip Dowel (Contact Joints)

Slip dowels shall be a single component dowel sleeve and reinforcing bar for transferring loads across concrete poured in separate phases to provide for the proper alignment of reinforcement dowels between adjoining concrete sections. Slip dowels shall be comprised of an 18-inch long, No. 4 reinforcing bar and have a minimum sleeve length of 9-inches.

Dowel sleeves shall be installed in the center of the concrete forms prior to pouring the first of two adjoining concrete sections. Dowel sleeves shall be spaced as shown on the drawings or as further specified. Slip dowel sleeve shall be removed upon completion of the first pour to allow for a complete bonding of the concrete to the dowel reinforcement upon completion of the second pour.

201-2.5.3 Dowel Sleeve (Expansion Joints)

Dowel Sleeves shall be used at all expansion joints or at connections of concrete sidewalks to culvert crossings. Dowel sleeves shall be single component dowel sleeve and reinforcing bar for use in expansion joints to securely position and align round dowels through expansion joint material for load transfer between adjoining concrete while providing for expansion and contraction across the expansion joint.

Dowel sleeves shall be installed in the center of concrete sections and spaced as shown on the plans or as further specified. Dowel sleeves shall be comprised of a 10-inch long, No. 4 reinforcing bar and have a minimum sleeve length of 5". Dowel sleeves shall be installed through the expansion joint such that the reinforcing dowel is fully encased within the sleeve through the entire expansion joint.

201-3 EXPANSION JOINT FILLER AND JOINT SEALANTS

201-3.1 General

Add the following:

Use of joint sealants over joint fillers shall be approved by the Engineer prior to installation.

201-3.2 Premolded Joint Filler

Add the following:

Premolded joint filler shall be preformed expansion joint filler (Bituminous) per ASTM D994. Joint filler shall be 3/8" thick for sidewalks and walkways and 1/2" thick for pavements. Filler shall be installed 1/4" below concrete finish surface.

201-3.3 Polystyrene Joint Filler

Add the following:

Polystyrene joint filler is not permitted for use in sidewalks, walkways or concrete pavements. Polystyrene joint filler may be used to separate concrete from posts, columns, vault boxes, and circular objects whose radius is small enough to prohibit the use of a premolded joint filler.

201-7 NON-MASONRY GROUT

201-7.3 Non-Shrink Grout

Add the following:

Non-Shrink grout shall be High Strength, Non-Metallic, Portland Cement Based meeting the requirement of ASTM C 1107 and the minimum requirements below:

Compressive Strengths, in accordance to ASTM C 109 Modified:

Plastic:	14,000 psi at 28 days
Fluid:	8,000 psi at 28 days
Flowable:	9,000 psi at 28 days

Pull out Strength, in accordance to ASTM C 488: 35,000psi

Height Change: 0 to 0.2% at 1, 3, 7, and 28 days.

Non-Shrink Grout shall be placed within 15 minutes from being mixed. Area to be grouted shall be flushed and soaked with clean water prior to grouting, leaving no standing water. Upon placement grout shall be lightly rodded to remove all air bubbles and shall be placed with a 1% min slope to finish grade for drainage.

201-10 VAPOR BARRIER

Add the following subsection:

201-10.1 General

Vapor barrier shall be Class A vapor barrier in accordance to ASTM E 1745. Vapor barrier shall have a permeability rating of less than 0.01 perms. All joints in sheets shall be sealed with seal tap meeting or exceeding the strength and permeability of the vapor barrier and be installed to the vapor barrier manufacturer's requirements.

SECTION 202 - MASONRY MATERIALS

202-2 CONCRETE BLOCK

202-2.2 Masonry Units Add the following:

Concrete Masonry Units for retaining walls shall be 8"x8"x16" split face block, beige in color (rough aggregate), and coated with anti-graffiti treatment.

202-3 MORTAR, GROUT, AND WATER Add the following subsection:

202-3.4 Water Proofing Membrane

Water proofing membrane shall be an elastomeric bitumen masonry water proofing sealer.

202-4 INTERLOCKING CONCRETE PAVERS Add the following subsection:

202-4.1 Concrete Pavers

Interlocking concrete paver units shall conform to ASTM C 936. Concrete paver color pigmentation shall conform to ASTM C 976. Concrete paver color & finish shall be as shown on the plans.

202-4.2 Permeable Concrete Pavers

Permeable concrete paver units shall conform to ASTM C 936.

202-5 VENEER STONE AND DECORATIVE CAPS Add the following subsection:

202-5.1 General

Veneer stone shall be as manufactured by El Dorado Stone, "Mountain Ledge Series", color: Durango or approved equal. Contractor shall submit color sample to City for approval prior to order or installation. Veneer stone shall receive anti-graffiti coating after installation with a coating type as recommended by the manufacturer.

Contact: El Dorado Stone
(800) 925-1491
www.eldoradostone.com

202-5.2 Pilaster Caps

Pilaster caps for shade shelters and pergolas shall be 3" high, 4,000 psi, colored pre-cast concrete, with chiseled edges, peaked type, and chamfered corners as

manufactured by Empire Precast model no. PC-3 “Chiseled Edge”, including optional peak design or approved equal. Contractor shall submit color samples for comparison to adjacent veneer stone surrounds for approval prior to order and installation.

202-5.3 Seat Wall Caps

Seat wall caps for seat walls shall be colored pre-cast concrete, 3” high, 4,000 psi, with chiseled edge, flat top, include custom radius, and include terminal ends as manufactured by Empire Precast or approved equal. Contractor shall submit color samples for comparison to adjacent veneer stone surrounds for approval prior to order and installation.

Contact: Empire Precast
 (951) 609-1591
 sales@empireprecast.net

SECTION 203 - BITUMINOUS MATERIALS

203-1 PAVING ASPHALT

203-1.6 Measurement and Payment

Add the following:

Paving asphalt shall be included in the unit price bid for the major items or work requiring the usage of paving asphalt including but not limited to; asphalt concrete mixtures, rubberized asphalt concrete mixtures, asphalt rubber aggregate membranes, seal coats, tack coats, etc.

203-6 ASPHALT CONCRETE

203-6.4 Asphalt Concrete Mixtures

203-6.4.1 Class and Grade

Add the following:

Asphalt concrete shall conform to the following aggregate gradation and performance grade of paving asphalt. Maximum amount of reclaimed asphalt pavement (RAP) permissible for all asphalt concrete mixes shall be 20%. Reclaimed asphalt pavement is not permitted for rubberized asphalt concrete mixes.

Asphalt Patching (less than 4" thick)	C2	(PG 64-10)
Asphalt Patching (4-inches and greater*)	B & C2	(PG 64-10)
Asphalt Overlays	C2	(PG 64-10)
Tire Rubber Modified Asphalt Concrete	GG-C	(MAC-15TR)
Speed Humps	D2	(PG 64-10)
Leveling Course	D2	(PG 64-10)
Skin Patching	F	(PG 64-10)
Asphalt Concrete Curbs/Berms/Dikes	D2	(PG 70-10)

*The top 1 ½" of asphalt shall be Type C2 mix for streets that will not receive a final surface treatment with the Project. Type B mix may be used for the entire patch, provided the street will receive a final surface treatment.

A minimum of five (5) working days prior to the paving operation, the Contractor shall submit to the Engineer the pavement supplier's certification of gradation and oil content for the asphalt concrete to be used for this Contract.

203-14 TIRE RUBBER MODIFIED ASPHALT CONCRETE (TRMAC)

203-14.2 Materials

203-14.2.1 Tire Rubber Modified Paving Asphalt

Add the following:

Whole scrap tire shall be derived from whole scrap tires generated within the State of California. A certificate of Compliance shall be required to be submitted confirming conformance to this requirement.

TRMAC paving asphalt shall be MAC-15TR.

200-14.3 Composition and Grading

Add the following:

TRMAC class and mix design shall be TRMAC-15-GG-C and shall conform to the requirements of this section.

SECTION 204 - LUMBER AND TREATMENT WITH PRESERVATIVES

204-1 Lumber and Plywood Is amended as follows:

204-1.1 Kinds

204-1.1.6 Lodge Pole Fencing Add the following subsection:

Lodge Pole fencing shall be doweled, pressure treated lodge pole pine. Any cracked, split, warped post or rails will not be accepted. Contractor shall submit prior to ordering materials to Engineer for approval.

Lodge pole posts shall be 6-7 inches in diameter, 6' long and pre-drilled. Top of posts shall be chamfered ½".

Lodge pole fence rails shall be 3½" diameter, 8' long, end doweled, and pressure treated.

Warped and split lodge pole posts and rails will not be accepted. Lodge pole rails shall be dried to the maximum amount possible to avoid warping during drying in the field installed condition.

204-3 COMPOSITE LUMBER Add the following section:

204-3.1 Header Board

Composite lumber for header boards shall be 2 x 6 solid composite lumber, brown in color as manufactured by Trex or approved equal.

Composite lumber shall be UV Resistant, warranted for a period of 20-years for staining and fading resistance, and conform to the minimum properties listed below:

Property	Test Method	Units	Minimum
Bending Strength	ASTM D198	psi (MPa)	500 (3.72)
Shear Strength	ASTM D143	psi (MPa)	500 (3.45)
Modulus of Elasticity	ASTM D4761	psi (MPa)	200,000 (1378)
Termite Resistance	AWPAE1-71	Rating	>9.5
Flame Spread	ASTM E84	Value	>80
Screw Withdrawal	ASTM D1761	lbs./in	380

SECTION 206 - MISCELLANEOUS METAL ITEMS

206-6 CHAIN LINK FENCE

200-6.1 General

Add the following:

All materials shall be Class 1. A top and bottom rail shall be included for all fences unless otherwise shown. Chain link fences and gates shall be connected to or adjoin existing fences. All PVC and vinyl-coated chain link fences and gates shall include Class 2 PVC coating or powder coating to match the fabric color on all posts, post caps, rails, braces, frames, and hardware.

200-6.2 Materials for Posts, Rails and Braces

Amend Table 206-6.2A with the following table:

<u>Use</u>	<u>Nominal Type and Size</u>	<u>Actual O. D. (inches)</u>	<u>Weight (lbs./ft.)</u>
Line Posts	2 NPS	2.375	3.65
Gate Posts (5' or Less)	3 ½ NPS	4.000	9.11
Gate Posts (Greater than 5')	5 NPS	5.563	14.62
Top and Bottom Rail, Braces	1 ¼ NPS	1.660	2.27
Stiffeners For Gates	1 ¼ NPS	1.660	2.27
Frames For Gates	1 ½ NPS	1.900	2.72

206-6.3.2 Polyvinyl Chloride (PVC) Coated Fabric

Add the following:

PVC coated fabric shall be Class 2, PVC fusion-bonded fabric.

206-7 STORM DRAIN INLET MARKERS

Add the following subsection:

Storm drain inlet markers shall be 4" diameter, brass, natural embossed, inlet marker as manufactured by Almetek Industries or approved equal. Marker shall contain state "No Dumping" with "Fish w/ Wave" symbol and "Drains to Waterways" legend. Marker shall contain 2" long x 1/4" diameter threaded rod and shall be installed flush and wet-set in top of inlet, centered on width of inlet opening.

Contact: Almetek Industries, (800) 248-2080 or www.almetek.com.

206-8 SKATE STOPPERS

Add the following subsection:

Skate stoppers shall be cast bronze architectural series "Maple Leaf" as manufactured by Skate Stoppers or approved equal. Contractor shall submit to the engineer the planned installation type (flat type, radius type, chamfer type) to the engineer for approval prior to order and installation. Skate stoppers shall be installed with concrete

epoxy adhesive to manufacturer's requirement. Skate stopper shall not be placed over expansion joint, mortar joints, or concrete control joints.

Contact: Skate Stoppers, (619) 447-6374 or www.skatestoppers.com.

206-9 VANDAL RESISTANT ANCHORS, SCREWS, NUTS

Add the following subsection:

206-9.1 Vandal Resistant Concrete Anchors

Anchors for adhering site furnishings to concrete shall be stainless steel sleeve anchor, torx pin, button head as manufactured by Loss Prevention Fasteners or approved equal. Stainless steel washer shall be provided with each anchor.

Contact: Loss Prevention Fasteners, (888) 584-6283, or
www.losspreventionfasteners.com.

Fasteners shall be 3/8" diameter x 3-3/4" long.

206-9.2 Vandal Resistant Screws

Vandal resistant screws shall be stainless steel, torx pin, button head screws. Wood, machine screws and sheet metal type screws shall be selected for the applicable anchoring installation and shall not be used interchangeably in an incorrect application.

206-9.3 Vandal Resistant Bolts

Vandal resistant bolts shall be stainless steel, torx pin, button head bolts. All bolts shall contain a stainless steel washer and vandal resistant nut. Bolts used for signs shall contain an additional stainless steel washer on the bolt head side.

206-9.4 Vandal Resistant Nuts

Vandal resistant nuts shall be stainless steel T-Groove nuts as manufactured by Loss Prevention Fasteners or approved equal. Carriage bolts shall be used with T-groove nuts. A stainless steel washer shall be provided on the T-Groove nut side of fastening applications.

Contact: Loss Prevention Fasteners, (888) 584-6283, or
www.losspreventionfasteners.com.

206-10 WEATHERING STEEL FOR RAILINGS AND STRUCTURES

Add the following subsection:

206-10.1 General

Weathering steel also known as corten steel or COR-TEN steel shall conform to the requirements of ASTM A847, 50ksi minimum. All tube steel members shall be 1/8" thick wall unless otherwise shown on the drawings.

206-11 SIGN POSTS

Add the following subsection:

206-11.1 General

Unless otherwise shown on the Drawings or in the Specifications, all sign posts shall be installed on galvanized tube steel posts in accordance to the San Diego Regional Standard Drawing M-45 "Break-Away Sign Post" Post shall include a 12" diameter by 18" deep concrete footing.

SECTION 207 - GRAVITY PIPE

207-2 REINFORCED CONCRETE PIPE (RCP)

207-2.1 General Add the following:

Reinforced concrete pipe shall be Class IV, 2,000 D-load pipe or as specified on the Plans. Size of RCP will be shown on the Plans.

207-5 PVC PERFORATED PIPE Add the following section

207-5.1 General Add the following:

Perforated pipe for sub drains/french drains shall be PVC solvent weld SDR35 sewer pipe per ASTM D 3034. Size of pipe will be shown on the drawings. Perforated pipe shall be sized as shown on the drawings. Perforated pipe shall be white in color, contain two 1/2-inch diameter holes spaced 120° apart.

207-15 ABS SOLID WALL PIPE

207-15.1 General Add the following:

ABS plastic solid wall pipe for use in sanitary sewer application shall be black in color.

207-17 PVC GRAVITY PIPE

207-17.1 General Add the following:

PVC drain pipe shall be PVC solvent weld SDR35 sewer pipe per ASTM D 3034. Size of pipe will be shown on the drawings. PVC drain pipe shall be white in color. Contractor shall install PVC drain pipe within Schedule 40 PVC sleeves where any drain pipe passes under paving and/or trails, as shown on the Drawings. Sleeves and chases shall extend 12" beyond each side of the improvement. The cost of the PVC sleeve shall be considered as included in the unit price bid for the PVC pipe and no separate payment shall be issued therefore.

SECTION 208 – PIPE JOINT TYPES AND MATERIALS

208-3 GASKETS FOR CONCRETE PIPE

Add the following:

Contractor shall furnish test samples of gaskets from each batch used in the work to ensure conformance to Table 208-3.

SECTION 209 – PRESSURE PIPE

209-4 PVC PRESSURE PIPE

209-4.2 Materials

Add the following

PVC pipe shall be Class 305 unless otherwise shown. Thrust blocks shall be provided at all bends and tees. 20 mil PVC tape shall be used for all film wrap for corrosion protection on all restrained joints.

209-7 PIPELINE IDENTIFICATION

209-7.2 Requirements

Add the following:

Location wire shall be provided in lieu of metal warning tape. 10-gauge copper locating wire shall contain polyethylene exterior protective coating.

SECTION 210 - PAINT AND PROTECTIVE COATINGS

210-6 ANTI-GRAFFITI COATINGS

Add the following subsection:

210-6.1 Requirements

Anti-graffiti coatings shall be a multipart coating system of the same manufacturer. Anti-graffiti coating system shall include a rain proofing primer coat, 2 coats of anti-graffiti coating, and a finish coating. Anti-graffiti coating system shall be a clear UV resistant, non-yellowing, low VOC, water based, flat sheen and shall have a 10 year manufacturer's warranty.

SECTION 211 – MATERIAL TESTS

211-1 COMPACTION TESTS

211-1.1 Laboratory Maximum Density

Revised with respect to methods used to read as follows:

Compaction tests will be performed in accordance with ASTM D1557, or California Test Method No. 216.

211-1.2 Field Density

Delete and replace with the following:

Field density of soil shall be by ASTM Methods D1556 (Sand Cone), D2922 (Nuclear Gauge), or California Test Methods 216 (Sand Cone) or 231 (Nuclear Gauge).

SECTION 212 – WATER AND SEWER SYSTEM VALVES AND APPURTENANCES

212-5 VALVES

212.5.4 Ball Valves

212.5.4.2 Materials

Add the following:

Below grade ball valves for site potable water system shall be schedule 80, full port, 250 psi, blocked, in accordance to ASTM F1970, NSF approved. Ball valves shall be installed within a precast concrete valve box with traffic rated lid stamped "Water".

Above grade ball valves shall be brass or bronze, full port, 250 psi, and certified lead free.

212-6 HYDRANTS

212.6.2 Hose Bib Hydrant

Add the following subsection:

212.6.2.1 Materials

Hose bib hydrants shall be stainless steel, self contained pedestal type hydrant for connection with garden hoses and shall be locking as manufactured by Most Dependable Fountains, Model No. 24SMSS, Color: Black or approved equal. Hose bib hydrant shall contain optional stainless steel surface carrier, and locking cover, with manufacturers optional installation template to ensure correct mounting orientation.

Contact: Most Dependable Fountains
(800) 552-6331
www.mostdependable.com

Hydrant shall include a 12" diameter by 16" deep concrete foundation and ball ball valve installed within a precast concrete valve box with traffic rated lid stamped "Water". Foundation shall be placed 2-inches above finish grade of landscaping when located within landscape areas.

SECTION 213 – ENGINEERING GEOSYNTHETICS

213-4 PAVING FABRIC

Delete this section and replace with the following:

Paving fabric shall be an engineered nonwoven pavement interlayer comprised of high strength fiberglass and polyester fibers conforming to ASTM D7239. Paving fabric material shall be: TruPave Engineered Paving Mat, as manufactured by Tencate or an approved equal. Paving fabric shall meet the following physical properties table and the additional material specifications below.

Paving Fabric Material Properties

Mechanical Properties	Test Method	Unit	Roll Value		Asphalt Filled Tensile Strength
			Nominal	Max	
Tensile Strength (MD)	ASTM D5035		80	--	> 180
Tensile Strength (CD)	ASTM D5035		70	--	>180
Elongation @ max load	ASTM D5035		< 5		--
Asphalt Retention	ASTM D6140		0.18 (0.82)		--
Melting Point	ASTM D276		--	> 446 (> 230)	
Mass/Unit Area	ASTM D5261		4.1 (136.6)	4.4 (146.3)	

Material must be made available in up 12 ½ -foot widths. This will prevent delays during the paving operation.

Material must have a proven performance record. Proof shall consist of a list of agencies that have used the material in California and found it to be suitable for use as an interlayer. Material shall have been used in projects for a minimum of the past 5 years in California. The material shall have a proven record that it can be recycled and milled via written documentation from milling Contractors and recycling facilities. If requested, a copy shall be provided to the City.

The pavement fabric shall be stored in accordance to the manufacturer's recommendations. The Pavement fabric shall be installed in accordance with the manufacturer's specifications and this specification. A copy of the manufacturer's specifications shall be provided to the City for review.

213-5 GEOTEXTILES AND GEOGRIDS

213-5.1 Filter Fabric Geotextiles

Add the following subsection:

213-5.1.1 General

Filter fabric shall be a needle punched nonwoven geotextile manufactured for the use of soil separation and drainage. Filter fabric shall be comprised of polypropylene fibers which are formed into a network such that the fibers retain their relative position. Filter Fabric shall be inert to biological degradation and shall resist naturally encountering chemicals, alkalis, and acids.

213-5.1.2 Material Types

Filter fabric for retaining walls, landscape rock cobble, and subsurface drains, and playground areas shall be Mirafi 140N as manufactured by TenCate or approved equal.

Filter fabric for separation between native soils and aggregate bases and/or permeable bases shall be Mirafi 160N as manufactured by TenCate or approved equal.

Filter fabric for rip rap installations shall be Mirafi 180N as manufactured by TenCate or approved equal.

213-5.1.3 Installation

Immediately before placing filter fabric, all surfaces to receive the filter fabric shall be graded smooth, free of loose or extraneous materials and sharp objects or other material, except grass, leaves and fine debris less than ½", that may damage the filter fabric during installation. Filter fabric shall be placed in a wrinkle free manner and shall be placed along roll lengths. Filter fabric shall be overlapped a minimum of 24 inches between rolls for placement under rip rap or a minimum of 12 inches when utilized for perforated pipe trench installation.

**SECTION 214 – TRAFFIC STRIPING, CURB AND PAVEMENT
MARKINGS, AND PAVEMENT MARKERS**

214-4 PAINT FOR STRIPING AND MARKINGS

214-4.1 General

Delete Table 214-4.1 and replace with the following:

Paint Specifications		
Paint type	Color	Specification
Waterborne traffic line, Type 1 (Rapid Dry)	White, Yellow, and Black	State Specification PTWB-01R2
Acetone-Based	White, Yellow, and Black	State Specification PT-150VOC(A)
Waterborne traffic line for the international symbol of accessibility and other curb markings	Blue, Red, and Green	Federal Specification TT-P-1952E

All parking lot striping and markings excluding stop legends and stop bars shall be paint, 2-coats.

214-5 THERMOPLASTIC MATERIAL FOR TRAFFIC STRIPING AND MARKINGS.

214-5.1 General

Add the following:

All stop bars and stop legends shall be thermoplastic.

SECTION 215 – SITE FURNISHINGS

Add the following section:

215-1 ROADWAY AND SIDEWALK FURNISHINGS

215-1.1 Truncated Domes

215-1.1.1 General

Truncated domes for pedestrian ramps shall be 36" x 48" or size as noted on the drawings, cast in place, 2-piece replaceable units, wet-set into concrete ramps and installed per manufacturers recommendations.

All truncated domes shall be Federal Yellow #33538.

Approved Truncated Dome Manufacturers are listed below:

Armor-Tile: Model No. ADA-C-3648 or ADA-C-2436
www.Armor-tile.com

ADA Tile: Model No. 3648REP or 3436REP
www.adatile.com

215-1.1.2 Payment

Payment for truncated domes shall be considered as included in the applicable concrete driveway, ramp, pathway, or other items of work that require truncated domes and no separate payment shall be provided therefore.

215-2 PARK FACILITY FURNISHINGS

All site furnishings shall include the specified product and any additional materials, finishes and labor necessary as required for each item.

Contractor shall substitute all manufacturer's concrete anchor bolts, screws, nuts and washers with the specified type of vandal resistant hardware specified for each type of park furnishing to the length, size and depth originally required by the manufacturer. This is to ensure a consistent type of vandal resistant hardware for all park furnishings.

Location on plans shows general locations only. Site furnishings shall be field located and oriented by City personal prior to placement. Concrete pads for specific site furnishings shall be constructed in conformance to Section 303-3.

Contractor shall submit product information to Engineer for approval prior to order or installation.

215-2.1 Bike Rack

Bike rack shall be Leaf Bike Rack, Model Number 185671, color: leaf, as manufactured by Landscape Structures or approved equal:

Contact: Landscape Structures
(800) 448-7931
www.playlsi.com

Bike racks shall be surface mounted with four (4) vandal resistant concrete anchors per Section 206-9.

215-2.2 Picnic Table

Picnic table shall be 8' long x 6' wide, 1 piece precast concrete picnic table, constructed with 5,000 psi concrete, and San Jose Buff in color. Picnic table shall be as manufactured by Outdoor Creations Inc., Model No. 114 or approved equal. Color: San Jose Buff

Contact: (530) 337-6774 or www.outdoorcreations.com

Picnic tables shall include a single 10' x 12', 5.5" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500.

215-2.3 Park Bench

215-2.3.1 Metal Park Benches

Metal Park Benches shall be ductile iron 6' long with support ends and steel seats. Benches shall meet the specifications of ASTM A36, black powder coated with anti-graffiti clear coat. Metal Park Benches shall be surface mounted with four (4) concrete anchors per Section 206-9.

Metal Park Benches shall be as manufactured by South Bay Foundry, Model No. PB 100-72 or approved equal. Contact (619) 956-2780 or www.southbayfoundry.com.

Metal Park Benches shall include a single 7' x 4', 5.5" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500.

215-2.3.2 Concrete Park Benches

Concrete Park Benches shall be precast radial concrete, 14" x 83.5" constructed with 5,000 psi concrete as manufactured by Outdoor Creations Inc., Model No. 404R203 or approved equal. Color: San Jose Buff

215-2.4 Trash Receptacle

Trash Receptacles shall be 36 gallon, side opening with integrated recycle bin with "Up drop" grillwork and dome lid. Latch to be tool operated security latch. Liner shall be black polyethylene with UL94HB fire-rating. Trash Receptacles shall be surface mounted to a concrete pad with concrete anchors per Section 206-9. Trash Receptacles shall be installed with a 36 gallon trash bag upon completion.

Trash Receptacles shall be as manufactured by Forms + Surfaces, Model No. SLURB-36RB, color: black powder coat or approved equal. Contact (800) 451-0410 or www.forms-surfaces.com

Trash Receptacle shall include a 32" x 32", 5.5" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500

215-2.5 Pet Waste Station

Pet Waste Stations shall be "Roll Bag Dispenser" and Dog Waste Station Signage as manufactured by ZerowasteUSA.com or approved equal. Dispenser shall be installed full with (3) 200 bag rolls. Color: Green.

Contact (800) 789-2563 or www.zerowasteusa.com

Pet Waste Station shall be installed on manufacturer's square telescoping post with 12" diameter by 18' deep concrete foundation and per manufacturer's instructions. All hardware shall be galvanized or stainless steel and shall be vandal resistant type. Waste station shall be installed such that the bag opening is 4' from the finished ground surface and signage is 6' high.

215-2.6 Interpretive Signage

Interpretive Signs shall be KVO Industries, Model No. 3826 OL-DLP, with Corten weathering steel. Contact www.kvoindustries.com

1/8" exterior grade digital high pressure laminate signs to be included. A 1/8" thick, UV resistant protective Lexan sheet shall be placed over the high pressure laminate sign, with both the sign and cover sliding into the sign base to protect from vandalism. Graphic Design layout will be provided to Contractor by City to coordinate with manufacturer.

Sign footings shall be 18" dia. X 24" min or as recommended by manufacturer. All mounting hardware shall be anchored to concrete foundation with concrete anchors per Section 206-9.

215-2.7 Bike Repair Station

Bike repair station shall be the "Fixit" model as manufactured by Dero. Bike repair station shall contain the "Air Kit 3" bike pump and "Pump Stop" accessories with "Bike Repair Sign". Bike repair station and air pump shall have stainless steel finish. Pump stop shall have stainless black powdercoat finish. Bike repair station shall be anchored to concrete foundation with concrete anchors per Section 206-9. Bike repair sign shall be mounted to sign post per Section 206-11. Top of sign shall be mounted 60" above finish grade.

Contact: www.dero.com or (888) 337-6729.

Bike repair station shall include a 6' x 8', 5.5" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500

215-2.8 Drinking Fountain

Drinking fountain shall be manufactured by Most Dependable Fountains, Inc., Model No. 10145 SMSS, with stainless surface carrier as or approved equal. All mounting hardware shall be anchored to concrete foundation with concrete anchors per Section 206-9.

Contact: www.mostdependable.com or (800) 552-6331.

Drinking Fountain shall include a 18" diameter, 12" thick concrete foundation. Concrete shall be 520-C-2500.

215-2.9 Pet Fountain / Dog Fountain

Pet Fountain / Dog Fountain shall be as manufactured by Most Dependable Fountains, Inc., Model No. 300 SMSS, color black, with stainless surface carrier or approved equal. All mounting hardware shall be anchored to concrete foundation with concrete anchors per Section 206-9.

Contact: www.mostdependable.com or (800) 552-6331.

Pet Fountain / Dog Fountain shall include a 24"x24" by 12" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500.

215-2.10 Hot Coal Bin

Hot Coal Bin shall be 32" x 32" square precast concrete receptacle, constructed with 5,000 psi concrete as manufactured by Outdoor Creations, Inc. Model No. 300CR or approved equal. Color: Desert Tan

Hot Coal Bins shall include a single, 3' x 3' by 5.5" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500.

215-2.11 Barbecue Grill

Barbecue Grill shall be 34" x 72" rectangular precast concrete barbecue, constructed with 5,000 psi concrete as manufactured by Outdoor Creations, Inc. Model No. 3001AG or approved equal. Color: Desert Tan

Barbecue Grills shall include a single, 6' x 8' by 5.5" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500.

215-2.12 Bean Bag Toss

Bean Bag Toss / Cornhole shall be 55" x 31" rectangular precast pigmented and polished concrete bag toss game, constructed with 5,000 psi concrete as manufactured by Outdoor Creations, model No. 1510 "Cornhole" or approved equal. Color: Pueblo

Contact: Outdoor Creations
 (530) 365-6100
 www.outdoorcreations.com

Bean Bag Toss / Cornhole shall be installed over a 6" thick section of decomposed granite or aggregate base. Each Bean Bag Toss game shall include three bean bags toss sets.

215-2.13 Table Tennis

Table Tennis shall be 5'x9' rectangular precast concrete tennis table, constructed with 5,000 psi concrete as manufactured by Outdoor Creations, Inc. Model No. 1500 or approved equal. Color: Desert Tan

Table Tennis shall include a single, 10' x 13' by 5.5" thick concrete pad with #3 bars spaced at 12" O.C. both ways. Concrete shall be 520-C-2500. Table shall include manufacturers recommended anti-graffiti coating.

215-2.14 Portable Restroom Screened Enclosure

Weathering steel shall be manufactured in accordance to Section 206-10, "Weathering Steel Railings and Structures" and to the size, shape and dimensions shown on the drawings. Contractor shall submit shop drawings to the City for review prior to fabrication of railings. Upon completion of the steel fabrication, all weathering steel shall be pre-weathered providing a rich deep colored patina. Any pre-weathering coating or accelerant used shall be submitted to the City for approval prior to application.

215-2.15 Dog Park Equipment and Amenities

215-2.15.1 General

All dog park equipment and amenities shall be installed in accordance to manufacturer's requirements and shall include all necessary hardware, concrete foundations and concrete pads. All items will be field located by the City in the large, small, and puppy dog park areas.

215-2.15.2 Dog Leash Post

Dog Leash Post shall be as manufactured by BarkPark, Model No. PBARK-480N, Color: Green or approved equal. Dog Leash Post shall be surface mounted with four, 3/8" diameter by 3-1/2 inch long vandal resistant stainless steel concrete anchors per Section 206-9 to a 16-inch diameter by 18-inch deep concrete footing. Footing shall be installed 3-inches above existing grade. Quantity: 5

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

217-2.15.3 Dog Fire Hydrant

Dog Fire Hydrant shall be as manufactured by BarkPark, Model No. TBARK-465, Color: Red or approved equal. Dog Hydrant shall be surface mounted with six, 3/8" diameter

by 3-1/2 inch long vandal resistant stainless steel concrete anchors per Section 206-9 to a 16" diameter by 18" deep concrete footing. Footing shall be installed 3-inches above existing grade. Quantity: 3

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

217-2.15.4 Hoop Jump

Dog Hoop Jump shall be as manufactured by BarkPark, Model No. TBARK-430, Color: Natural or approved equal. Hoop Jump shall be installed to manufacturer's requirements and will require two, 12-inch diameter by 24-inch deep concrete footings. Footings shall be installed flush to existing grade below blended mulch. Quantity: 1

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

217-2.15.5 Small Hoop Jump

Dog Small Hoop Jump shall be as manufactured by BarkPark, Model No. TBARK-431, Color: Natural or approved equal. Small Hoop Jump shall be installed to manufacturer's requirements and will require two, 12-inch diameter by 24-inch deep concrete footings. Footings shall be installed flush to existing grade below blended mulch. Quantity: 2

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

215-2.15.6 Paws Table

Dog Paws Table shall be as manufactured by BarkPark, Model No. PBARK-420N, Color: Natural or approved equal. Paw Table shall be installed to manufacturer's requirements and will require four, 12-inch diameter by 18-inch deep concrete footings. Footings shall be installed flush to existing grade below blended mulch. Quantity: 3

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

215-2.15.7 Dog Crawls

Dog Crawl shall be as manufactured by BarkPark, Model No. PBARK-491-GRN, Color: Green or approved equal. Dog Crawl shall be installed to manufacturer's requirements and will require four, 12-inch diameter by 18-inch deep concrete footings. Footings shall be installed flush to existing grade below blended mulch. Quantity: 2

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

215-2.15.8 King of the Hill

Dog King of the Hill shall be as manufactured by BarkPark, Model No. PBARK-400N, Color: Natural or approved equal. King of the Hill shall be installed to manufacturer's requirements and will require six, 12-inch diameter by 24-inch deep concrete footings. Footings shall be installed flush to existing grade below blended mulch. Quantity: 1

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

215-2.15.9 Dog Walk

Dog Walk shall be as manufactured by BarkPark, Model No. TBARK-410, Color: Natural or approved equal. Dog Walk shall be installed to manufacturer's requirements and will require eight, 12-inch diameter by 24-inch deep concrete footings. Footings shall be installed flush to existing grade below blended mulch. Quantity: 1

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278
(800) 458-5872
www.dogparkproduct.com

215-2.15.10 Stepping Paws

Dog Stepping Paws shall be as manufactured by BarkPark, Model No. PBARK-470N Color: Natural or approved equal. Stepping Paws shall be surface mounted with four, 3/8" diameter by 3-1/2 inch long vandal resistant stainless steel concrete anchors per Section 206-9 to a 16" diameter by 18" deep concrete footing, total of 5 footings. Footings shall be installed flush to existing grade below blended mulch. Quantity: 1

Contact: BarkPark
1675 Locust Street
Red Bud, IL 62278

(800) 458-5872
www.dogparkproduct.com

215-2.15.11 Dog Silhouettes

Dog Silhouettes shall be as manufactured by Dog-On-It-Parks or approved equal, Color: Black powder coat. Silhouettes shall be installed to the dog park perimeter fencing and will be field located by the City. Silhouettes shall be installed with manufacturer's mounting bracket, and stainless steel vandal resistant bolts and hardware per Section 206-9. Manufacturer's provided hardware shall not be used. Silhouettes types and quantities are listed below:

French Bull Dog, Model No. 7300	Quantity: 1
Basset Hound, Model No. 7293	Quantity: 1
Beagle, Model No. 7294	Quantity: 1
Blue Tick Hound, Model No. 7296	Quantity: 1
Labrador, Model No. 7290	Quantity: 1
Pointer, Model No. 7292	Quantity: 1
Scottie, Model No. 7297	Quantity: 1
Vizsla, Model No. 7299	Quantity: 1

Contact: Dog-On-It-Parks
4848 Evergreen Way, Ste. 250
Everett, WA 98203
(877) 348-3647
www.dog-on-it-parks.com

215-2.15.12 Dog Bone Bench

Dog Bone bench shall be as manufactured by Outdoor Creations, Model No. 499, Color Soft Grey or approved equal. Dog bone bench shall be smooth finish and contain manufacturer's non-sacrificial anti-graffiti coating. Dog bone bench shall be installed on a 24-inch wide by 80-inch long concrete pad, 4-inches thick. Concrete pad shall contain #4 reinforcing bars placed at 24-inches on center both ways. Footings shall be installed flush to finish grade matching blended mulch grade. Quantity 3

Contact: Outdoor Creations
2270 Barney Road
Anderson, CA 96007
(530) 365-6106
www.outdoorcreations.com

215-2.15.13 Dog Park Regulation Signs

Dog Park Regulation Signs shall be 18"x 24" aluminum signs with 3M reflective aluminum, as manufactured by DogPoopSigns.com, Model No. K-0124, Color: Green Reversed, or approved equal. Signs to be mounted to dog park fence at entrance point as located by the City with stainless steel vandal resistant hardware. Quantity 5

Contact: Dog Poop Signs.com

www.dogpoopsigns.com

215-2.16 Disc Golf

215-2.16.1 Disc Golf Tee Box

Disc Golf Tee Box shall be a 4-inch thick 5' x 10' rectangular concrete pad with exposed aggregate finish in conformance with Section 303-9, and #4 rebar spaced at 12-inches O.C. both ways. Concrete for Disc Golf Tee Box shall be 560-C-3250.

215-2.16.2 Disc Golf Goal

Disc Golf Goal shall be permanent Mach V Disc Golf Basket as manufactured by DGA or approved equivalent, with locking anchor collar, disc golf basket number kit, and two spare anchor collars and anchors per hole. Concrete foundation for locking anchor base shall be 12" diameter by 24" deep.

215-2.16.3 Disc Golf Tee Information Signs

Disc Golf Tee Information Signs shall be 12"x18" "Deluxe" as manufactured by DGA or approved equivalent and shall be mounted to a 4"x4" Corten steel tube post with vandal resistant hardware per Section 206-9. Sign post shall be capped with a 3/16" Corten steel plate welded to the top. The top of the sign shall be installed at 60-inches higher than finished grade and embedded 18 inches deep into a 12" diameter concrete footing. Each Disc Golf Tee Box shall receive a Disc Golf Tee Information Sign (total quantity: 18)

215-2.16.4 Disc Golf Safety Signs

Disc Golf Warning Signs shall be "UFO Course" as manufactured by DGA or approved equal and shall be mounted to a 4"x4" Corten steel tube post with vandal resistant hardware per Section 206-9. Sign post shall be capped with a 3/16" Corten steel plate welded to the top. The top of the sign shall be installed at 60-inches higher than finished grade and embedded 18 inches deep into a 12" diameter concrete footing.

215-2.16.5 Disc Golf Rules Signs

Disc Golf Rules Sign shall be as manufactured by DGA or approved equal and shall be mounted to a 4"x4" Corten steel tube post with vandal resistant hardware per Section 206-9. Sign post shall be capped with a 3/16" Corten steel plate welded to the top. The top of the sign shall be installed at 60-inches higher than finished grade and embedded 18 inches deep into a 12" diameter concrete footing.

215-2.17 Basketball Court

215-2.17.1 General

Basketball Court shall be constructed of 4" thick concrete per Section 303-5 and details on the drawings. The surface of the concrete shall be painted Florida green with two coats, rolled and the key shall be painted light green. Paint shall be Plexipave Acrylotex

Sport System or approved equal. Contractor to submit a sample of the color to the City for review prior to order and painting the basketball court. Basketball court delineation shall be for a full size court furnished with a gooseneck basketball hoop centered on the north and south sides of the court as shown in the Drawings.

215-2.17.2 Basketball Goal

215-2.17.2.1 Basketball Post

Single Basketball Post shall be a single length of 6-3/8" O.D. galvanized steel formed in a gooseneck shape with an 8-foot offset and 10' higher than the finished grade of the basketball court. as manufactured by Patterson-Williams Athletic Manufacturing Co. Model No. 1565 or approved equal and shall be embedded 4 feet into a 36" x 54" deep concrete foundation as shown in the Drawings. Post shall include diagonal braces, backboard mount, bolts, screws, adapters, and all hardware.

215-2.17.2.2 Basketball Backboard

Basketball Backboard shall be 1-1/2" fiberglass rectangular with target and perimeter as manufactured by Patterson-Williams Athletic Manufacturing Co. Model No. 20 or approved equivalent. Basketball Backboard shall be weather-resistant and moisture-resistant and shall include all necessary hardware

215-2.17.2.3 Basketball Net

Basketball Net shall be double ring metal chain with 18-inch round welded steel rim as manufactured by Patterson-Williams Athletic Manufacturing Co. Model No. 37 or approved equivalent. Basketball Net shall be weather-resistant and shall include rim supports, mounting plates, and all necessary hardware.

215-2.17.3 Basketball Court Striping

Basketball Court Striping shall be Plexipave Plexicolor line paint, 2" wide. Color: White or approved equal.

215-2.18 Shade Shelters and Kiosks

215-2.17.1 General

Shade shelters and entry kiosks shall be premanufactured structures as depicted on the Plans and described in these Special Provisions. Shelters shall be manufactured by Coverworx (www.coverworx.com) or approved equal.

Contact: Paul Daniels at Recreation by Design
Phone (714) 484-7807
Fax (714) 527-5499
info@recbydesign.net

Shade shelter manufacturer shall have a minimum of 10-years' experience in the fabrication of tubular steel framed shade shelters. The fabrication of these structures shall be the manufacturer's primary business.

Shade shelters and kiosks shall be constructed with additional requirements as listed below:

Support Frame Requirements:

Support columns shall be sized as specified per structure below. Support frame shall be steel in accordance to the manufacturer's requirements. All members shall be designed in accordance to the "American Institute of Steel Construction (AISC) specifications and the American Iron and Steel Institute (AISI) specifications for cold-formed members. All frame members shall be one piece hollow steel shape (HSS) tube with a minimum .120 (1/8") wall thickness, sized according to required manufacturers engineered drawings. All frame members shall be bolted together with bolts totally concealed. Compression rings shall be fabricated from hollow steel shape tube or flat plate steel and shall have all connections concealed from view. All tubing for frame members shall be ASTM 500 grade B. Beam and end plates shall be ASTM A36, $f_y=36,000\text{psi}$ UNO. Bolts shall be galvanized steel, and in accordance to ASTM A325 unless otherwise noted in manufacturers structural Engineered drawings. "I" Beams, Angle iron "S", "C", "Z" beams or purlins, open or closed will not be permitted. All fabrication welds shall be in strict accordance with the structural welding code of the American Welding Society (AWS) specifications. All structural welds shall be in compliance with the requirements of "Pre-qualified" welded joints. All welding shall conform to ASTM A-233 series E-70XX electrodes – low hydrogen. Field welding of structure is not permitted.

Paint and Protective Coatings

Support frames shall be powder coated 'Nut Brown', RAL #8011. Contractor shall submit color type for City approval prior to order or manufacture of the shade shelter structure. All support frame members shall be media blasted to remove all rust, scale, oil and grease. All frame members shall be powder coated and receive a zinc rich primer 3 mils thick and a TGIC polyester coat 3 mils thick. Total finish coating shall be 3 mils thick. Finish shall be a smooth uniform surface with no pits, bumps, runs or sags.

Inside face of tongue and groove sub-roof and end sections shall receive two coats of a 6-year minimum rated, premium grade weatherproofing finish, color clear. Tongue and groove sub-roof shall be prepared in accordance to the weatherproofing manufacturers requirements. Weatherproofing shall be placed prior to installation onto metal structure to ensure a neat and clean finish and to prevent weatherproofing stain from being placed onto the metal frame shelter structure.

Roof eaves and trim boards shall be primed and painted with two coats of exterior rated paint to match standing seam roof and trim color (only if selected structure has wood eave and trim boards).

Roofing Requirements:

Standing seam metal roof shall be a 16" wide, flat pan, 24 gauge Galvalume coated steel Medallion-Lok panels by McElroy Metal, per ICBO #ER-2757, Color: Hartford Green. Contractor shall submit color sample for City approval prior to order or fabrication of roof. All steel roofing components shall be pre-finished with PVF@

(Polyvinylidene Fluoride) Kynar 500 on the top exterior facing side. Roof panels shall be pre-cut with ribs/standing seams running down with the slope of the roof.

Unless otherwise specified below, standing seam metal roofing shall be placed on top of 30# heavy-duty roofing felt underlayment paper, anchored with round cap nails per roofing paper manufacturer's requirements. Sub-roof shall be provided and shall be 2"x6" western red cedar, tongue & groove boards, grade A and Better Clear. Boards shall be run parallel to roof joints (top of roof to roof base).

Fascia shall be tubular steel and shall match steel support frame structure. Roofing trim shall be provided on both ends of the tongue and groove sub roofing and shall be 24 gauge "J" channel. Upper "J" channel shall match the color of the interior structure frame. The lower "J" channel shall match the color of the standing seam metal roof. A drip edge shall also be provided in addition to the "J" channel at the bottom edge roofing sections. All roofing screws and rivets shall match roof color. Roof Pitch shall be as specified per structure below.

Standing seam metal roof and underlayment paper shall be installed by a California licensed roofing contractor.

Foundation Requirements:

Provide foundation sized in accordance to manufacturers requirements. Foundation shall be installed level to grade and not to surrounding grades. Foundation shall be designed in accordance to the latest California Building Code. All anchor bolts, nuts, washers and hardware shall be galvanized steel. Anchor bolts shall be internal type, located inside the support frame columns.

Lighting Requirements:

Hexagonal shade shelters shall include a single light fixture mounted to the top center of the tubular steel support frame plate. Luminaire shall be a LED ceiling mounted light fixture, 4,000k as manufactured by RAB Lighting, Model No. CLED52N, 120V, bronze in color, or approved equal. Contact www.rabweb.com for product cut sheets. All wiring shall be installed within the tubular steel support frame with jacketed, flexible, liquid tight metallic conduit.

Cantilevered pergola shall include two light fixtures mounted to the inside tube steel header braces symmetrically on each side of the center-most column, beam, and brace. Luminaire shall be a LED high performance tallpack light fixture, 4,000k as manufactured by RAB Lighting, Model No. WPTLED12N, 120V, bronze in color, or approved equal. Pergola lighting shall be dimmable and utilize a 120-277V photocell (Full Model No. WPTLED12N/D10/PC2 or approved equal). Contact www.rabweb.com for product cut sheets. All wiring shall be installed within the tubular steel support framing with jacketed, flexible, liquid tight metallic conduit.

Grounding/Electrical Requirements:

Contractor shall provide a ½" diameter x 8 foot long copper grounding rod to one column footing within column footing base. A 3/4-inch diameter schedule 40 electrical conduit shall be provided to the same column footing base with long radius sweep to provide for electrical connection for lighting.

Ornamental Requirements:

Provide ornamental features as described per shelter below.

All exposed bolts, screws, and mounting hardware located 8' high or lower shall be stainless steel, with vandal resistant per section 206-9.

Warranty:

Shade Shelter manufacturer shall warranty the structure to be free for any defects in material and workmanship for a period of ten (10) years from the date of acceptance by the City. Manufacturer shall repair or replace structure components to match the original material and workmanship. Steel roof shall be warranted for thirty (30) years under a separate roof manufacturer's warranty. Powder coating shall be warranted for a period not less than five (5) years after acceptance by the City and shall guarantee against any and all peeling, flaking, rusting or deterioration of the powder coating. Warranties shall be provided to the City for review prior to the start of work.

215-2.18.1 30' Hexagonal Shelter

Model:

Steelworx Hexagonal Shelter with Vented Top, 30'
HX-30-SW-VT-TG-SS-C

Additional Requirements:

Shelter shall be 30' hexagonal with vented roof (4:12 pitch), 2x6 tongue and groove subroof and 7'-6" vertical clearance as specified above.

Support columns shall be 8"x8"x3/16" with ornamental base, surface mounted to footings with anchor bolts.

Shade shelter shall include a concrete pad as dimensioned on the Plans. Concrete pad shall be 5.5" thick with #3 bars spaced at 16" O.C. both ways over water proofing membrane. Expansion joint shall be provided between concrete pad and any adjoining concrete walkways. Concrete shall be 560-C-3250.

215-2.18.2 38' Hexagonal Shelter

Model:

Steelworx Hexagonal Shelter with Vented Top, 38'
HX-38-SW-VT-TG-SS-C

Additional Requirements:

Shelter shall be 38' hexagonal with vented roof (4:12 pitch), 2x6 tongue and groove subroof and 7'-6" vertical clearance as specified above and detailed on Plans.

Between vented roof sections, provide (1) 3/16" thick steel plate with cutout lettering 8" high affixed to tube steel frame. Plate shall be connected to tub steel frame with 1/4" stainless steel vandal resistant screws per Section 206-9. When installed on site, steel plate shall be located on northwest side of structure, centered on walkway.

Text: MAST PARK, 8" High

Font: Dyer Arts and Crafts
Steel Plate Color: To match steel frame

Support columns shall be standard 8"x8"x3/16" embedded directly into footing per manufacturer's specifications.

Shelter shall include masonry column surround for each column as detailed on Plans. Veneer stone shall be 1-1/8" average thickness per Section 202-5 "Veneer Stone and Caps". Contractor shall provide straight and corner units for full coverage of vertical masonry surfaces. Concrete cap, veneer stone and masonry shall receive anti-graffiti coating with 2 coats, OKON masonry sealer W2 and Ultrashield, clear polyurethane enamel (IP 631) as manufactured by Dunn Edwards or approved equal.

Shade shelter shall include a concrete pad which shall extend 1-foot beyond the outer roof line or masonry column surround, whichever is greater. Concrete pad shall be 5.5" thick with #3 bars spaced at 16" O.C. both ways over water proofing membrane. Expansion joint shall be provided between concrete pad and any adjoining concrete walkways. Concrete shall be 560-C-3250.

215-2.18.3 Radius Cantilevered Pergola

Model:

Steelworx Custom Radius Cantilevered Pergola, 15' x 64'
RCP-1564-SW

Additional Requirements:

Pergola shall be 15'x64' shelter with 33' radius of outer curved steel tube rafter beam and 9'-8" vertical clearance as specified above and detailed on Plans. Pergola shall consist of steel support frame and lattice, with no roofing.

Support columns shall be standard 8"x8"x3/16" embedded directly into footing per manufacturer's specifications.

Shelter shall include masonry column surround for each column as detailed on Plans. Veneer stone shall be 1-1/8" average thickness per Section 202-5 "Veneer Stone and Caps". Contractor shall provide straight and corner units for full coverage of vertical masonry surfaces. Concrete cap, veneer stone and masonry shall receive anti-graffiti coating with 2 coats, OKON masonry sealer W2 and Ultrashield, clear polyurethane enamel (IP 631) as manufactured by Dunn Edwards or approved equal.

215-2.18.4 Kiosks

Disc Golf Kiosk and Entry Kiosk

Model:

Steelworx Gable Kiosk Shelter – 6' x 8'
KG-0608-SW-612-TG-SS-C

Additional Requirements:

Kiosk shall be 6'x8', rectangular Steelworx Gable Kiosk Shelter, Model KG-0608-SW-612-TG-SS-C or approved equal with gable roof (6:12 pitch) and 7'-6" vertical clearance

as specified above and detailed on Plans. Roof shall have white underside with no subroofing.

Provide 3'x4' double-sided aluminum display case with locking acrylic door and cork board interior, affixed to support columns.

Between roof and display case, provide (1) 3/16" thick steel plate with cutout lettering affixed to tube steel frame. Plate shall be connected to tub steel frame with 1/4" stainless steel vadal resistant screws per Section 206-9

Text: MAST PARK, 8" high lettering.

Font: Dyer Arts and Crafts

Steel Plate Color: To match steel frame

Support columns shall be standard 5"x5"x3/16" embedded directly into footing per manufacturer's specifications.

Entry Kiosks shall include masonry column surround as detailed on Plans. Veneer stone shall be 1-1/8" average thickness per Section 202-5 "Veneer Stone and Caps". Contractor shall provide straight and corner units for full coverage of vertical masonry surfaces. Concrete cap, veneer stone and masonry shall receive anti-graffiti coating with 2 coats, OKON masonry sealer W2 and Ultrashield, clear polyurethane enamel (IP 631) as manufactured by Dunn Edwards or approved equal.

215-2.19 Outdoor Fitness Equipment

Outdoor Fitness Equipment shall be Greenfields Outdoor Fitness (<http://gfoutdoorfitness.com/>) or approved equal. Equipment color shall be green and tan.

Contact: Kelly Spence at Miracle Playground Sales
Phone (800) 264-7225 x108
Fax (877) 215-3869
kelly.spence@miracleplayground.com

Four-Person Lower Body Combo, Model GR2005-1-21, Quantity 1
Three-Person Static Combo, Model GR2005-1-71, Quantity 1
Upright Stationary Bike, Model GR2005-1-89, Quantity 1
Two-Person Air Walker, Model GR2005-1-23, Quantity 1

Install equipment on footings below fibar per the manufacturer's recommendations and as shown in the Plans. Location and orientation of Outdoor Fitness Equipment shall follow ASTM F3101-15 and be approved by the City prior to installation.

215-2.20 Park Regulation Signs

Park regulation sign shall be an 18" x 24" x 1/8" thick aluminum sign mounted sign post per Section 206-11. City to provide specific sign language to Contractor for order and fabrication. Contractor shall submit shop drawing to City for review prior to order and fabrication of signs.

215-2.21 Sensitive Habitat Signs

Sensitive habitat signs shall be 6" x 12" by 1/8" thick aluminum sign mounted to lodge pole fence posts as located by the City. Signs shall be installed onto fully dried post to ensure a secure hold with vandal resistant hardware per Section 206-9. City to provide specific sign language to Contractor for order and fabrication. Contractor shall submit shop drawing to City for review prior to order and fabrication of signs.

215-2.22 Playground Surfacing

Playground Surfacing shall be engineered wood fiber consisting of randomly size pieces not exceeding 2" in length, recycled from wood mills and truss plants, and contain no more than 15% fines to aid in compaction.

Engineered wood fiber shall comply with ASTM F1292 for impact absorption, ASTM F1951 for accessibility and ASTM F2075 for use under and around playground equipment.

Engineered wood fiber shall be Fibar Engineered Wood Fiber System 312 or approved equal with playground safety mats for use under excessive wear areas such as swings, slide exits and sliding poles. Playground safety mats shall be FiberMat or approved equal and shall be installed flush with the playground surface finish grade per manufacturer's recommendations. Separation fabric shall comply with Section 213-4 of this document.

Contractor shall submit a 5-lb bag or bucket sample to the City for quality inspection prior to order and placement.

Contractor shall install an additional 3" of Fibar to account for natural compaction. Contractor shall also install additional Fibar 60 days after placement to account for natural compaction in order to achieve a 12" thickness of material.

215-2.23 Play Structures

215-2.23.1 General

Play Structures shall be by Landscape Structures or approved equal.

Contact: Gregg Rogers at Coast Recreation
Phone (714) 619-0100
Fax (714) 619-0106
grogers@coastrecreation.net

Reference: Quote # 99801-1-4 and Rendering #99801-1-5-1

Play structure colors shall include Leaf, Brown, Acorn, Denim and Tan as shown on renderings in Plans and referenced in Rendering #99801-1-5-1.

215-2.23.2 Warranty

Manufacturer shall offer the following warranties on the materials and components of its system:

100-YEAR LIMITED WARRANTY

On all PlayBooster®, PlayShaper® and PlaySense® aluminum posts, stainless steel fasteners, clamps, beams and caps, against structural failure due to corrosion/natural deterioration or manufacturing defects, and on PlayBooster, Evos™ and Weevos™ steel posts and arches against structural failure due to material or manufacturing defects.

15-YEAR LIMITED WARRANTY

On all plastic components (including TuffTimbers™ edging), all steel components (except 100-year steel posts), Mobius® climbers, decks and TenderTuff™ coatings (except Wiggle Ladders, Chain Ladders and Swing Chain) against structural failure due to material or manufacturing defects. TuffTurf® tiles against material or manufacturing defects.

10-YEAR LIMITED WARRANTY

On concrete products against structural failure due to natural deterioration or manufacturing defects. Does not cover minor chips, hairline cracks or efflorescence.

8-YEAR LIMITED WARRANTY

On Aeronet™ climbers and climbing cables against defects in materials or manufacturing defects. On CoolToppers® fabric against failure from significant fading, deterioration, breakdown, mildew, outdoor heat, cold or discoloration. This warranty is limited to the design loads as stated in the specifications found in the technical information.

3-YEAR LIMITED WARRANTY

On all other parts, i.e.: CableCore® products, swing seats and hangers, grills, Mobius climber handholds, Wiggle Ladders, Chain Ladders and Swing Chain, Track Ride trolleys and bumpers, all rocking equipment including Sway Fun® gliders, PVC belting material, HealthBeat™ hydraulic cylinders, Seesaws, Wiggle Ring Bridge, etc., against failure due to corrosion/natural deterioration or manufacturing defects.

215-2.23.3 General Material Specifications

Material: All materials shall be structurally sound and suitable for safe play. Durability shall be ensured on all steel parts by the use of time-tested coatings such as zinc plating, galvanizing, ProShield finish, TenderTuff coating, etc. Colors shall be specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F879 unless otherwise indicated (see specific product installation/specifications). All primary fasteners shall include a locking patch-type material that will meet the minimum torque requirements of IFI-125. Manufacturer to provide special tools for pinned tamperproof fasteners.

TenderTuff Coating: Metal components to be TenderTuff-coated shall be thoroughly cleaned in a hot phosphatizing pressure washer, then primed with a water-based thermosetting solution. Primed parts shall be preheated prior to dipping in UV-stabilized, liquid polyvinyl chloride (PVC), then salt cured at approximately 400 degrees Fahrenheit (200 degrees Celsius). The finished coating shall be approximately .080" (2,03 mm) thick at an 85 durometer with a minimum tensile strength of 1700 PSI (11721,09 Kilopascals) and a minimum tear strength of 250 pounds/inch (0.028 kilonewton meters). Five standard colors are available all with a matte finish. (Brown only for HealthBeat). Not applicable for Evos.

ProShield Finish: All metal components with ProShield finish shall be thoroughly cleaned and phosphatized through a five-stage power washer. Parts are then thoroughly dried, preheated and processed through a set of automatic powder spray guns where a minimum .002" (0,05 mm) of epoxy primer is applied. A minimum .004" (0,10 mm) of architectural-grade Super-Durable polyester TGIC powder is applied. The average ProShield film thickness is .006" (1,52 mm).

ProShield is formulated and tested per the following ASTM standards. Each color must meet or exceed the ratings listed below:

- Hardness (D3363) rating 2H
- Flexibility (D522) pass 1/8" (3,17 mm) mandrel
- Impact (D2794) rating minimum 80 inch-pounds (9.038 newton meters)
- Salt Fog Resistance (B117 and D1654) 4,000 hours and rating 6 or greater
- UV Exposure (G154, 340 bulb) 3,000 hours, rating delta E of 2, and 90 percent gloss retention
- Adhesion (D3359, Method B) rating 5B

The Paint Line shall employ a "checkered" adhesion test daily.

26 standard colors are available.

Decks: All Tenderdecks shall be of modular design and have 5/16" (7,92 mm) diameter holes on the standing surface. There shall be a minimum of (4) slots in each face to accommodate face mounting of components. Tenderdecks shall be manufactured from a single piece of low carbon 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM specification A-1011. The sheet shall be perforated with a return flange on the perimeter to provide the reinforcement to ensure structural integrity. There shall be no unsupported area larger than 3.5 square feet (0.3251 square meters). The unit shall then be TenderTuff-coated brown or gray only. Tenderdecks shall be designed so that all sides are flush with the outside edge of the supporting posts. Not applicable for Evos, Weevos or HealthBeat.

Rotationally Molded Polyethylene Parts: These parts shall be molded using prime compounded linear low-density polyethylene with a tensile strength of 2500 psi (17236,9 kilopascals) per ASTM D638 and with color and UV-stabilizing additives. Wall thickness varies by product from .187" (3/16") (4,75 mm) to .312" (5/16") (7,92 mm). Five standard colors are available (Black only for HealthBeat).

Permalene Parts: These parts shall be manufactured from 3/4" (19,05 mm) high-density polyethylene that has been specially formulated for optimum UV stability and color retention. Products shall meet or exceed density of .960 G/cc per ASTM D1505, tensile strength of 2400 PSI (16547,42 kilopascals) per ASTM D638. Five standard solid colors are available. Some Permalene parts are available in a two-color product with (2) .100" (2,54 mm) thick exterior layers over a .550" (13,97 mm) interior core of a contrasting color. Eight standard two-color options are available. Not applicable for Evos or HealthBeat.

Recycled Permalene® Parts: These parts shall be manufactured from 3/4" (19,05 mm) high-density polyethylene that has been specially formulated for optimum UV stability and color retention. Products shall meet or exceed density of .960 G/cc per ASTM D1505, tensile strength of 2400 PSI (16547,42 Kilopascals) per ASTM D638. Available in a three-layer product with (2) .100" (2,54 mm) thick colored exterior layers over a .550" (13,97 mm) thick 100% recycled Black interior core. Eleven standard color options are available. Not applicable for Evos or HealthBeat.

Footings: Unless otherwise specified, the bury on all footings shall be 34" (864 mm) below Finished Grade (FG) on all in-ground play events/posts. Other types of anchoring are available upon request.

Hardware Packages: All shipments shall include individual component-specific hardware packages. Each hardware package shall be labeled with the part number, description, a component diagram showing the appropriate component, package weight, a bar code linking the hardware package to the job number, assembler's name, date and time the package was assembled, work center number, and work order number.

Installation Documentation: All shipments shall include a notebook or packet of order-specific, step-by-step instructions for assembly of each component, including equipment assembly diagrams, estimated hours for assembly, footing dimensions, concrete quantity for direct bury components, fall height information, area required information and detailed material specifications.

Packing List: All shipments shall include a packing list for each skid/container, specifying the part numbers and quantities on each skid or within each container.

Packaging: PlayBooster posts shall be individually packaged in sturdy, water-resistant, mar-resistant cardboard boxes. Other components shall be individually wrapped or bulk wrapped to provide protection during shipment. Small parts and hardware packages will be placed in crates for shipment. The components and crates are then shrink-wrapped to skids (pallets) to ensure secure shipping.

Maintenance Kit: An order-specific maintenance kit shall be provided for each structure order. The kit will include a notebook or packet with a second set of installation documents and order-specific maintenance documentation with recommendations on how often to inspect, what to look for and what to do to keep the equipment in like-new condition. The kit also includes touch-up primer, appropriate color touch-up paint, sandpaper, appropriate color touch-up PVC, graffiti remover and additional installation tools for the tamperproof fasteners.

PlayBooster (PB) General Specifications:

Posts: Post length shall vary depending upon the intended use and shall be a minimum of 42" (1067 mm) above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a "finished grade marker" positioned on the post identifying the 34" (864 mm) bury line required for correct installation and the top of the loose fill protective surfacing. Top caps for posts shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with (3) self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the post to increase the footing area.

Steel Posts: All steel PlayBooster posts are manufactured from 5" (127 mm) O.D. tubing with a wall thickness of .120" (3,04 mm) and shall be galvanized after rolling and shall have both the I.D. and the cut ends sprayed with a corrosion resistant coating.

Steel Post Mechanical Properties:

Yield Strength (min): 50,000 PSI (344737,95 Kilopascals)
Tensile Strength (min): 55,000 PSI (379211,75 Kilopascals)
% Elongation in 2 inches (51 mm): 25
Modulus of Elasticity: 29.5 x 1,000,000 PSI (6894759,09 Kilopascals).

Aluminum Posts: All aluminum PlayBooster posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5" (127 mm) outside diameter with a .125" (3,17 mm) wall thickness.

Aluminum Post Mechanical Properties:

Yield Strength (min): 35,000 PSI (241316,57 Kilopascals)
Tensile Strength (min): 38,000 PSI (262000,85 Kilopascals)
% Elongation in 2 inches (51 mm): 10
Modulus of Elasticity: 10 x 1,000,000 PSI (6894759,09 Kilopascals)

Arch Posts: Aluminum arch posts shall be manufactured from 6005-T5 alloy. The arch shall be formed to a 21" (533 mm) center line radius to complement the 42" (1067 mm) center to center module. The arch shall be of one continuous piece construction. There shall be no welds or additional pieces mechanically fastened to manufacture the arch. Each arch shall be designed to provide a minimum of 90 1/2" (2298,7 mm) clear span from the deck to the inside of the arch at the radius peak. Arches shall be proShield finished to a specified color.

Clamps: All clamps are ProShield finished and, unless otherwise noted, shall be die cast using a 369.1 aluminum alloy and have the following mechanical properties:

Ultimate Tensile: 47,000 PSI (324053,68 Kilopascals)
Yield Strength: 28,000 PSI (193053,25 Kilopascals)
Elongation: 7% in 2 inches
Shear Strength: 29,000 PSI (199948,01 Kilopascals)
Endurance Limit: 20,000 PSI (137895,18 Kilopascals)

Each functional clamp assembly shall have an appropriate number of half clamps and shall be fastened to mating parts with (2) 3/8" (9,53 mm) x 1 1/8" (28,58 mm) pinned

button head cap screws (SST) and (2) stainless steel (SST) recessed "T" nuts. A 1/4" (6,35 mm) aluminum drive rivet w/stainless steel pin is used to ensure a secure fit to the post.

PlayBooster clamps have three functional applications and shall be named as follows:

- 1.) Offset hanger clamp assembly.
- 2.) Deck hanger clamp assembly.
- 3.) Hanger clamp assembly.

Cable: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core, color specified.

PlayOdyssey Structural Frame: Post length of the double ladder/central column shall vary depending upon the deck height and shall be flush with the bottom of a deck infill or a minimum of 46" (1168 mm) above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a "finished grade marker" positioned on the post identifying the 60" (1524 mm) bury line required for correct installation and the top of the loose fill protective surfacing. Post caps shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with (3) self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the ladder posts to increase the footing area. Ladders are bolted together below grade to act as a single column for installation purposes. The deck support weldments/arms are comprised of 5/16" (.312") (7,92 mm) steel conforming to 1010 steel per ASTM A635 and welded to a 52" (1321 mm) steel post. Arms are secured to each ladder post with (4) 5/8" (15,88 mm) x 1 1/2" (38,1 mm) pinned button head cap screws thru (2) 1/4" (6,35 mm) flanges.

PlayOdyssey Optional Aluminum Roof Posts: All formed aluminum PlayOdyssey roof posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5" (127 mm) outside diameter with a .125" (3,17 mm) wall thickness. Post sleeve shall have 4.675" (118,75 mm) outside diameter with a .150" (3,81 mm) wall thickness. Post cap shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with (3) self-sealing rivets.

215-2.23.4 2-5 Yr Play Structures

114373A

Belt Bridge (42")

Mounting Angle: Weldment comprised of 2 1/2" (63,5 mm) wide x 2 1/2" (63,5 mm) high x 36 1/2" (927,1 mm) long formed 10 GA (.135") (3,43 mm) carbon steel with 3/8" x 1 1/8" (9,53 mm x 28,58 mm) stainless steel studs. Finish: TenderTuff, color specified.

Mounting Plate: Fabricated from 2" (51 mm) wide x 36 1/2" (927,1 mm) long 3/16" (4,75 mm) HR flat steel. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Permalene Panel: One-color panel measures 35 5/8" (904,88 mm) wide x 40 1/2" (1028,7 mm) high, color specified.

Belt: Made from .315" (8,00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plies, black in color.

171569A

Mushroom Stepper 10"Height DB Only

GFRC Mushroom Assembly: (Support) Comprised of 2 3/8" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tubing. Finish: ProShield. (Mushroom Climber) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

169318B

Wood Plank Wiggle Ladder 40"Deck w/Recycled Wood-Grain Handholds DB

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Poly Board: Recycled high-density polyethylene, cedar and mink in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.

Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.

Support (DB): Fabricated from 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm - 2,28 mm) galvanized steel tubing.

Handhold Frame: Weldment comprised of 1.125" (28,58 mm)O.D. 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,88 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

169320D

Log Stepper 40" Deck w/2 Recycled Wood-Grain Handholds 1 Handloop and 1 Handrail
DB Only Right Handhold

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handloop: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 GA (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 3/8" (9,53 mm) internal thread. Finish: TenderTuff, color specified.

Handrail: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 GA (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel welded inserts with 3/8" (9,53 mm) internal threads. Finish: TenderTuff, color specified.

Poly Board: Recycled high-density polyethylene, cedar and mink in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) wall galvanized steel tubing and 3/16" (4,75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

Handhold Frame: Weldment comprised of 1.125" (28,58 mm) O.D. 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,88 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

111228A

Square Tenderdeck

Square Deck: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 47" x 47" (66,68 mm x 1194 mm x 1194 mm). Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

121948A

Kick Plate 8"Rise

Kick Plate: Fabricated from 11 GA (.120") (3,04 mm) HR flat steel. Finish: TenderTuff, brown or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

184354A

Curved Transfer Module Right 2-5yrs 32"Dk DB

Clamps: Cast aluminum. Finish: ProShield, color specified.

Step Support: Weldment comprised of 1.660" (42,16 mm) O.D. RS-20 (.080" - .095") (2,03 mm-2,41 mm) galvanized steel tubing and 1 3/4" x 1 3/4" x 1/8" (44,45 mm x 44,45 mm x 3,17 mm) HR angle. Finish: ProShield, color specified.

Step Sections/Top Step Section: Formed from 12 GA (.105") (2,66 mm) HRPO sheet steel conforming to ASTM A1011. Standing surface is 24 3/8" (619,13 mm) wide x 14" (355,6 mm) deep and is perforated with 5/16" (7,92 mm) diameter holes. Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Support: Weldment comprised of 3 1/2" (88,9 mm) O.D. RS-20 (.125") (3,17 mm) galvanized steel tubing and 3/8" (9,53 mm) O.D. x 5" (127 mm) long CRS rod. Finish: ProShield, color specified.

Deck: Flange formed from 12 GA (.105") (2,66 mm) HRPO sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes and measures 29" (737 mm) per (2) sides. Finish: TenderTuff, color specified.

Panels: Permalene, color specified.

Spacer Tube: Fabricated from 6061-T6 aluminum 1 1/8" (28,58 mm) O.D. x 1 1/4" (31,75 mm). Finish: ProShield, color specified.

Spacer Tube: Made from 1 1/8" O.D. 6061-T6 aluminum tubing. Finish: ProShield®, color specified.

Railings: Weldment comprised of formed 1 1/8" O.D. x 11 GA (.120") steel tubing, 3/16" thick HR flat steel, 3/16" thick HRPO steel plate and 3/4" O.D. x 11 GA. (.120") stainless steel tubing. Finish: TenderTuff, color specified.

Stl. Hanger Clamp: Weldment comprised of 1/4" HRPO flat steel. Finish: ProShield®, color specified.

115253A

Hole Panel

Bracket: Formed 11 GA (.120") (3,04 mm) 5052 aluminum angle. Finish: ProShield, color matched to panel.

Hole Panel: One-color Permalene. Panel measures 35 1/2" (901,7 mm) wide x 37" (940 mm) high, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

130565A

Table Panel DB

Table End Panel: One-color Permalene panel measures 34" (864 mm) wide x 13 3/8" (339,73 mm) high, color specified.

Table Panel: One-color Permalene panel measures 19 1/2" (495,3 mm) wide x 34 3/4" (882,65 mm) long, color specified.

Frame: Weldment comprised of 3/16" x 2" x 1 1/4" (4,75 mm x 51 mm x 31,75 mm) HRS angle and 3/16" x 2" (4,75 mm x 51 mm) flat steel bar. Finish: ProShield, color matched to posts.

Access Clamp: Weldment comprised of 3/8" (9,53 mm) HRPO steel plate and 1/4" x 1 3/4" (6,35 mm x 44,45 mm) wide steel clamp. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Table Top Bracket: Fabricated from 1/4" x 3 1/2" x 28 9/16" (6,35 mm x 88,9 mm x 725,47 mm) HRPO flat steel. Finish: ProShield, color matched to posts.

Half Clamp: Cast aluminum. Finish: ProShield, color specified.

Support Leg: Weldment comprised of 2.375" (60,33 mm) O.D. RS-20 (.095" - .105") (2,41 mm-2,66 mm) galvanized steel tubing and 1/4" x 2 1/2" x 9" (6,35 mm x 63,5 mm x (229 mm) flat plate. Finish: ProShield, color specified.

169319A

Recycled Wood-Grain Lumber Panel

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Clamps: Cast aluminum. Finish: ProShield, color specified.

Bracket: Formed from 1/4" x 1 1/4" (6,35 mm x 31,75 mm) HRPO flat steel. Finish: ProShield, tan in color.

Poly Board: Recycled 1 1/2" x 3 1/2" (38,1 mm x 88,9 mm) and 1 1/2" x 5 1/2" (38,1 mm x 139,7 mm) high density polyethylene, cedar or mink in color.

Barrier Rail: Weldment comprised of 1.125" (28,57 mm) O.D. 11 GA. (.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,87 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

173594A

Log Crawl Tunnel DB Only

Log Crawl Tunnel Assembly: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,29 mm-2,54 mm) wall galvanized steel tubing, 3/16" HRPO steel plate and 7" x 3" x 3/16" (178 mm x 76 mm x 4,75 mm) wall rectangular tube. (Log Crawl Tunnel assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

111404F

108"Alum Post DB

Post: See PlayBooster (PB) General Specifications.

111404E

116"Alum Post DB

Post: See PlayBooster (PB) General Specifications.

No Material Spec for 136689A

136488A

CoolToppers Full Sail DB Only

Large/Small Sail: Heavy duty, 62.9 mils (1.6 mm) thick professional grade shade fabric for tensioned structures and other shade applications. Made from UV stabilized HDPE monofilament and tape yarns. Specialized lock stitch knit for more air movement and better channeling of cooling breezeways. Constructed to block up to 97.7% of harmful UV sun rays. Fade and tear resistant, will not crack, rot or fray. Tensile strength warp 142.75 lbs. weft 560.67 lbs. Tear strength warp 42.03 lb. and weft 80.70 lbs.. Burst pressure 507.63 PSI. Live loads 5 psf. Remove fabric when wind speed is expected to exceed 90 mph and snow load is expected to exceed 5 psf.

Arm: Weldment comprised of 5" (127 mm) O.D. x 11 GA (.120") (3,04 mm) galvanized steel tubing and 4.690" (119,13 mm) O.D. sleeve. Finish: ProShield, color specified.

Center Tube: Weldment comprised of 5" (127 mm) O.D. x 11 GA (.120") (3,05 mm) galvanized steel tubing and 1/4" (6,35 mm) hanger brackets. Finish: ProShield, color specified.

Half Bracket: Cast from 535 almag. Finish: ProShield, color specified.

Post Cap: Cast from 369.1 aluminum alloy. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Clamps: Cast aluminum. Finish: ProShield, color specified.

130800B

Gemini SlideWinder2 40"Dk DB 2 Right

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Rail: 1 1/8" (28,58 mm) O.D. 6061-T6 aluminum extrusion with 5/16" (7,92 mm) walls. Finish: ProShield, color specified.

Exit Footer: Weldment comprised of 2.375" (60,32 mm) RS-20 (.095" - .105") (2,41 mm-2,66 mm) galvanized steel tubing and 1/4" x 4" x 11 3/4" (6,35 mm x 102 mm x 298,45 mm) mounting plate. Finish: ProShield, color specified.

Rail Spacer: Fabricated from 1.312" (33,32 mm) O.D. x 16 Ga. (.065") (1,65 mm) steel tubing. Finish: ProShield, color specified.

Mid-Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090" - .100") (2,28 mm-2,54 mm) galvanized steel tubing and 7 GA. (.179") (4,54 mm) HRPO steel strap. Finish: ProShield, color specified.

Support Base (SM): Weldment comprised of 1.660" (42,16 mm) O.D. RS-20 (.085" - .095") (2,16 mm-2,41 mm) galvanized steel tubing and 1/4" x 3" x 8" (6,35 mm x 76 mm x 203 mm) mounting plate. Finish: ProShield, color specified.

Slide Sections: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

145838A

Lava Run Slide DB

Support: Weldment comprised of 1.660" (42,16 mm) O.D. RS20 (.085"- .095") (2,16 mm-2,41 mm) galvanized steel tubing and fabricated 7 GA. (.179") (4,55 mm) steel plate. Finish: ProShield, color specified.

Rail: Extruded from 1.125" (28,58 mm) O.D. x .312" (7,92 mm) W. 6061-T6 aluminum. Finish: ProShield, color specified.

Rail Spacer: Fabricated from 1.312" (33,32 mm) O.D. x 16 Ga. (.065") (1,65 mm) steel tubing. Finish: ProShield, color specified.

Lava Run: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Hood: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

173596A

Log Balance Beam DB

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Leg: Fabricated from 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing. Finish: ProShield, brown in color.

Log Balance Beam Assembly: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tubing and 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing. Finish: ProShield, brown in color. (Log-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

182503A

Welcome Sign (LSI Provided) Ages 2-5 years Direct Bury

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Border: Permalene, black in color.

Sign Panel: Panel is fabricated from 1/8" (.125")(3,17 mm) aluminum plate. Finish: ProShield®, gray in color. (Sign) Digital image is transferred to a 1/8" (.125")(3,17 mm) ProShield coated aluminum plate, then infused into the ProShield.

Post: Weldment comprised 2.375" (60,33 mm) O.D. RS20 (.095-.105) (2,41 mm-2,67 mm) wall galvanized tube, 1/4" (6,35 mm) HRPO steel sheet and aluminum post cap. Finish: ProShield, color specified.

215-2.23.5 5-12 Yr Play Structures

114665A

Arch Bridge (42")

Arch Bridge: Fabricated from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Finish: TenderTuff, color specified.

Panel: One-color panel measures 35 5/8" (904 mm) wide x 41" (1040 mm) high, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

147425A

Clatterbridge 123 w/Barriers

CABLE: Made of tightly woven, polyester-wrapped, six stranded galvanized-steel cable with a PVC wrapped galvanized steel core.

Clamps: Cast aluminum. Finish: ProShield, color specified.

MOUNTING BRACKET: Weldment comprised from 1/2" (12,7 mm) HRPO sheet steel, (2) 1/4" x 1 3/4" (6,35 mm x 44,45 mm) steel half clamps and 7/8" (22,23 mm) diameter 304L stainless steel tube. Finish: ProShield, color specified.

Barrier: Weldment comprised of 1.900" (48,26 mm) O.D. RS-20 (.090" - .100") (2,28 mm-2,54 mm) galvanized steel tubing beam, 1.029" (26,14 mm) O.D. RS-20 (.070" - .080") (1,78 mm-2,03 mm) galvanized steel tubing and 7 GA. (.179") (4,55 mm) HRPO sheet steel. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

ATTACHMENT BRACKET: Fabricated from 11 GA. (.120") (3,04 mm) HRPO plate. Finish: TenderTuff, color specified.

COVER PLATE: Fabricated from 12 GA. (.105") (2,66 mm) HRPO plate. Finish: ProShield, color specified.

PLANK: Weldment comprised from 12 GA. (.105") (2,67 mm) HRPO plate with 5/16" (7,92 mm) diameter perforated holes and threaded stainless steel inserts, plank measures 11 7/16" x 46 7/8" (290,50 mm x 1190,63 mm) long. Finish: TenderTuff, color specified.

No Material Spec for 193173C

173907A

Log Stepper 8"Height DB Only

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) wall galvanized steel tubing and 3/16" (4,75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

No Material Spec for 111812A

169320B

Log Stepper 48" Deck w/2 Recycled Wood-Grain Handholds 1 Handloop DB Only Right Handhold

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handloop: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 GA (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 3/8" (9,53 mm) internal thread. Finish: TenderTuff, color specified.

Poly Board: Recycled high-density polyethylene, cedar and mink in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) wall galvanized steel tubing and 3/16" (4,75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

Handhold Frame: Weldment comprised of 1.125" (28,58 mm) O.D. 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,88 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

169322C

Discovery Tree Climb w/Aluminum Post w/o Roof DB Only

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Hose Clamp: Band and housing made from 300 series stainless steel. Slotted screw with hex head and safety collar is cadmium-plated carbon steel.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Post: See PlayBooster (PB) General Specifications.

Spacer Tube: Made from 1 1/8" (28,58 mm) O.D. 6061-T6 aluminum tube. Finish: ProShield, tan in color.

Tree Climb Assy.: (Frame) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) wall galvanized steel tubing, 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing, 1/4" (6,35 mm) HRPO steel plate, 3/16" (4,75 mm) HRPO steel plate, 18" (457 mm) O.D. 1/4" (.250") (6,35 mm) wall steel tube. Finish: ProShield. (Talk Tube Plate) Weldment comprised of 1.250" (31,75 mm) O.D. x 11 GA. (.120") (3,04 mm) black steel tube and 12 Ga. (.105") (2,66 mm) HRPO flat steel. Finish: ProShield, color specified. (Tree Climb-fully assembled) Castings are made from Glass Fiber Reinforced Concrete (GFRC). Glass fiber is Alkali Resistant (AR) type glass formulated for concrete. Nominal wall thickness of 1" (25 mm) and weighs about 11 1/2 lbs. (5,22 kilograms) per square foot. Castings have a strength of 1,500 lbs. (680,39 kilograms) per square inch in tension and 5,000 lbs. (2267,96 kilograms) per square inch in compression. Finish: Latex paint made for concrete, natural colors.

Poly Board: Recycled 1 1/2" x 3 1/2" (38,1 mm x 88,9 mm) and 1 1/2" x 5 1/2" (38,1 mm x 139,7 mm) high density polyethylene, cedar or mink in color.

Handhold Frame: Weldment comprised of 1.125" (28,58 mm) O.D. 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,88 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

172665A

Loop Pole w/Recycled Wood-Grain Handholds 48"Dk DB

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Loop Pole: Weldment comprised of 1.900" (48,26 mm) O.D. RS-20 (.090"-.100") (2,28 mm-2,54 mm) galvanized steel tubing, and 1.315" (33,40 mm) O.D. RS-20 (.080"-.090") (2,03mm-2,28 mm) galvanized steel tubing. Finish: ProShield, color specified.

Poly Board: Recycled high-density polyethylene, cedar and mink in color.

Spacer: Extruded from 1.125" (28,58 mm) O.D. x .290" (7,37 mm) w. 6061-T6 aluminum. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Handhold Frame: Weldment comprised of 1.125" (28,58 mm) O.D. 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,88 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

207581A

The Ascent Rock

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Clamps: Cast aluminum. Finish: ProShield, color specified.

Handhold Frame: Weldment comprised of 1.125" (28,58 mm) O.D. 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,88 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Poly Board: Recycled high-density polyethylene, cedar and mink in color.

Spacer Tube: Made from 1 1/8" (28,58 mm) O.D. 6061-T6 aluminum tube. Finish: ProShield, tan in color.

Rock Panel: Weldment comprised of 5/8" (15,87 mm) & 3/4" (19,06 mm) rebar, 1/4" (6,35 mm) HRPO steel sheet and 7 GA. (.179") (4,55 mm) thick HRPO steel plate. Finish: ProShield®. (Rock-fully assembled) Wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

Wall Mount Brkt.: Fabricated from 7 GA. (.179") (4,55 mm) thick HRPO steel plate. Finish: ProShield®, color specified.

Wall Mount Clamp: Weldment comprised of 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield®, color specified.

Straight Wall Brkt.: Fabricated from 7 GA. (.179") (4,55 mm) thick HRPO steel plate. Finish: ProShield®, color specified.

146812A

Sky Rail Climber 72"Dk DB

Sky Rail: Weldment comprised of 1.900" (48,26 mm) O.D. RS-20 (.090" - .100") (2,28 mm-2,54 mm) galvanized steel tubing per ASTM A500, 1.315" (33,40 mm) O.D. RS-20 (.080" - .090") (2,03 mm-2,28 mm) galvanized steel tubing per ASTM A500, 1.029" (26,13 mm) O.D. RS-20 (.070" - .080") (1,78 mm-2,03 mm) galvanized steel tubing per ASTM A500, 3/16" x 1 1/4" x 2" (4,75 mm x 31,75 mm x 51 mm) angle and 1/4" x 2 1/2" (6,35 mm x 63,5 mm) HR flat steel. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Footer: Fabricated from 1.900" (48,26 mm) O.D. RS-20 (.090" - .100") (2,28 mm-2,54 mm) galvanized steel tubing. Finish: ProShield, color specified.

145624A

Vertical Ascent 48"Dk

Made from Polyester Resin. Handholds measure approx. 5 3/4" (146,05 mm) long x 2 1/4" (57,15 mm) wide x 1 3/4" (44,45 mm) high.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22,23 mm) O.D. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Panels: Permalene, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

150975B

Cascade Climber 72"Dk DB Only

Barrier: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 GA (.120") (3,04 mm) steel tube per ASTM A513 with 203 or 303 stainless steel welded inserts with 5/8" (15,88 mm) internal threads and 1/4" (6,35 mm) tabs. Finish: TenderTuff, color specified.

Support Pipe: Weldment comprised of 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tube, 1/4" x 1 1/4" (6,35 mm x 31,75 mm) HRPO flat steel and 12 Ga. (.105") (2,66 mm) sheet HRPO steel. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Panels: Permalene, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

152907B

Deck Link w/Barriers Steel end panels 2 Steps

SteelX Panels: Zinc plated 7 GA (.179") (4,55 mm) HRPO flat steel. Finish: ProShield, color specified.

Barrier: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 Ga. (.120") (3,04 mm) wall steel tubing, 5/8" (15,88 mm) O.D. steel bar with 203 or 303 stainless steel 3/8" (9,53 mm) threaded inserts. Finish: TenderTuff, color specified.

Step Section: Formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is 24 1/4" (615,95 mm) wide x 14" (356 mm) deep and is perforated with 5/16" (7,94 mm) diameter holes. Finish: TenderTuff, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22,23 mm) O.D. x 1 11/16" (42,85 mm). Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Clamps: Cast aluminum. Finish: ProShield, color specified.

111228A

Square Tenderdeck

Square Deck: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 47" x 47" (66,68 mm x 1194 mm x 1194 mm). Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

111229A

Square Deck Extension

Square Deck Extension: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 42" x 47" (66,68 mm x 1067 mm x 1194 mm). Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

111231A

Triangular Tenderdeck

Triangular Deck: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 37 3/4" (66,68 mm x 958,85 mm). Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

119646A

Tri-Deck Extension

Triangular Deck Extension: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size of two of the three sides measures 2 5/8" x 37 7/8" (66,68 mm x 962,03 mm) on the face of the deck and the other side measures 2 5/8" x 43 3/4" (66,68 mm x 1111,25 mm). Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

121948A

Kick Plate 8"Rise

Kick Plate: Fabricated from 11 GA (.120") (3,04 mm) HR flat steel. Finish: TenderTuff, brown or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

121948B

Kick Plate 16"Rise

Kick Plate: Fabricated from 11 GA (.120") (3,04 mm) HR flat steel. Finish: TenderTuff, brown or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

121949A

Tri-Deck Kick Plate 8"Rise

Kick Plate: Fabricated from 11 GA (.120") (3,04 mm) HR flat steel. Finish: TenderTuff, brown or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

122197A

90* Triangular Tenderdeck

Triangular Deck: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 37 3/4" (66,68 mm x 958,85 mm). Finish: TenderTuff, color specified.

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

152911C

Curved Transfer Module Right 48"Dk DB

Step Support: Weldment comprised of 1.660" (42,16 mm) O.D. RS-20 (.080" - .095") (2,03 mm-2,41 mm) galvanized steel tubing and 1 3/4" x 1 3/4" x 1/8" (44,45 mm x 44,45 mm x 3,17 mm) HR angle. Finish: ProShield, color specified.

Step Sections/Top Step Section: Formed from 12 GA (.105") (2,66 mm) HRPO sheet steel conforming to ASTM A1011. Standing surface is 24 3/8" (619,13 mm) wide x 14" (355,6 mm) deep and is perforated with 5/16" (7,92 mm) diameter holes. Finish: TenderTuff, color specified.

Railings: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel 3/8" (9,53 mm) threaded inserts. Finish: TenderTuff, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22,23 mm) O.D. x 1 11/16" (42,85 mm). Finish: ProShield, color specified.

Deck Support: Weldment comprised of 3 1/2" (88,9 mm) O.D. RS-20 (.125") (3,17 mm) galvanized steel tubing and 3/8" (9,53 mm) O.D. x 5" (127 mm) long CRS rod. Finish: ProShield, color specified.

Deck: Flange formed from 12 GA (.105") (2,66 mm) HRPO sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes and measures 29" (737 mm) per (2) sides. Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Panels: Permalene, color specified.

152911C

Curved Transfer Module Left 48"Dk DB

Step Support: Weldment comprised of 1.660" (42,16 mm) O.D. RS-20 (.080" - .095") (2,03 mm-2,41 mm) galvanized steel tubing and 1 3/4" x 1 3/4" x 1/8" (44,45 mm x 44,45 mm x 3,17 mm) HR angle. Finish: ProShield, color specified.

Step Sections/Top Step Section: Formed from 12 GA (.105") (2,66 mm) HRPO sheet steel conforming to ASTM A1011. Standing surface is 24 3/8" (619,13 mm) wide x 14" (355,6 mm) deep and is perforated with 5/16" (7,92 mm) diameter holes. Finish: TenderTuff, color specified.

Railings: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel 3/8" (9,53 mm) threaded inserts. Finish: TenderTuff, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22,23 mm) O.D. x 1 11/16" (42,85 mm). Finish: ProShield, color specified.

Deck Support: Weldment comprised of 3 1/2" (88,9 mm) O.D. RS-20 (.125") (3,17 mm) galvanized steel tubing and 3/8" (9,53 mm) O.D. x 5" (127 mm) long CRS rod. Finish: ProShield, color specified.

Deck: Flange formed from 12 GA (.105") (2,66 mm) HRPO sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes and measures 29" (737 mm) per (2) sides. Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Panels: Permalene, color specified.

169319A

Recycled Wood-Grain Lumber Panel

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Clamps: Cast aluminum. Finish: ProShield, color specified.

Bracket: Formed from 1/4" x 1 1/4" (6,35 mm x 31,75 mm) HRPO flat steel. Finish: ProShield, tan in color.

Poly Board: Recycled 1 1/2" x 3 1/2" (38,1 mm x 88,9 mm) and 1 1/2" x 5 1/2" (38,1 mm x 139,7 mm) high density polyethylene, cedar or mink in color.

Barrier Rail: Weldment comprised of 1.125" (28,57 mm) O.D. 11 GA. (.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15,87 mm) internal threads and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, tan in color.

218172A

DigiFuse Barrier Panel w/Medallions Above Deck

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22,23 mm) O.D. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

DigiFuse Panel: Made from 1/4" (6,35 mm) thick aluminum sheet. Dye sublimation printed digital artwork is fused onto the powder coated substrate.

Medallion Plate: Made from .063" (1,60 mm) thick aluminum plate, 4" (101 mm) in diameter. Finish: ProShield®, white in color with a clear coat finish.

No Material Spec for 185338B

188689A

10' PlayOdyssey Tower w/o Roof

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Inner Deck Plate: Fabricated from 1/4" (6,35 mm) HRPO steel sheet. Finish: ProShield, color specified.

Pipebolt: Fabricated from 1.125" (28,58 mm) O.D. 6061-T6 aluminum tube, with 3/8" (9,53 mm) internal threads.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Infill Panel: Recycled Permalene, color specified.

Support Bar: Fabricated from 1/4" x 1 1/4" (6,35 mm x 31,75 mm) HRPO flat steel. Finish: ProShield, color specified.

Double Post: Weldment comprised of 5" (127 mm) O.D. x 11 GA (.120") (3,04 mm) galvanized steel tubing, 1.029" (26,13 mm) O.D. RS-20 (.070" - .080") (4,51 mm-2,03 mm) galvanized steel tubing, 1.315" (33,40 mm) O.D. RS-20 (.080" - .090") (2,03 mm-2,28 mm) galvanized steel tubing and 1/4" x 1 1/4" (6,35 mm x 31,75 mm) HRPO flat steel. Finish: ProShield, color specified.

Infill Deck: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. The finished size measures 2 5/8" x 24 3/8" x 24 3/8" (66,68 mm x 619,13 mm x 619,13 mm). Finish: TenderTuff, color specified.

Octagon Deck: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7,92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The combined finished size measures 2 5/8" x 106 1/4" x 106 1/4" (66,68 mm x 2698,75 mm x 2698,75 mm). Finish: TenderTuff, color specified.

Post Cap: Cast aluminum. Finish: ProShield, color specified.

Outer Post: Fabricated from 5" O.D. x 11 GA (.120") galvanized steel tubing and die cast 369.1 aluminum post cap. Finish: ProShield, color specified.

Re-bar #5: 5/8" Diameter.

111362A

Talk Tube 40' Tubing Kit PB

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Hose Clamp: Band and housing made from 300 series stainless steel. Slotted screw with hex head and safety collar is cadmium-plated carbon steel.

Talk Tube Hose: Made from 1.75" (44,45 mm) O.D. HDPE conduit.

111363A

Talk Tube At Grade Mounted DB Only

Talk Tube Cover: One-color Permalene, Tan in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Bug Screen: Weave .011 (0,28 mm) Ga. charcoal fiberglass screen.

Talk Tube: Weldment comprised of 1.600" (42,16 mm) O.D. RS20 (.085" - .095") (2,16 mm-2,41 mm) galvanized steel tubing, 14 GA. (.079") (2,00 mm) cold rolled steel sheet zinc plate, and 3/16" (4,75 mm) HRPO steel sheet. Finish: ProShield, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

166809A

E-Pod Seat

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Pod Casting: Fabricated from sand cast alloy 356 in accordance with ASTM B26. Finish: ProShield, color specified.

E-Pod Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

No Material Spec for 245689

193170A

LolliLadder w/2 E-Pods

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Pod Casting: Fabricated from sand cast alloy 356 in accordance with ASTM B26.
Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

E-Pod Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

LolliLadder: Weldment comprised of 1/4" (6,35 mm) HRPO flat steel, 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,55 mm) wall galvanized steel tubing, and 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,29 mm) wall galvanized tubing.
Finish: ProShield®, color specified.. Finish: ProShield, color specified.

Rung Cap: EPDM, black in color.

111403K

182"Steel Post For Roof DB

Post: See PlayBooster (PB) General Specifications.

111403A

182"Alum Post For Roof DB

Post: See PlayBooster (PB) General Specifications.

111404M

148"Steel Post DB

Post: See PlayBooster (PB) General Specifications.

111404E

116"Alum Post DB

Post: See PlayBooster (PB) General Specifications.

111404D

124"Alum Post DB

Post: See PlayBooster (PB) General Specifications.

111404C

132"Alum Post DB

Post: See PlayBooster (PB) General Specifications.

111404B

140"Alum Post DB

Post: See PlayBooster (PB) General Specifications.

111404A

148"Alum Post DB

Post: See PlayBooster (PB) General Specifications.

154883A

265"Steel Post For CoolToppers Single Post Roof DB 64"Dk

CoolTopper Post: Weldment comprised of 5" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) galvanized steel tubing and 1/4" (6,35 mm) steel plate. Finish: ProShield, color specified.

Footer Extension: Weldment comprised of 5" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) galvanized steel tubing and 1/4" (6,35 mm) steel plate. Finish: ProShield, color specified.

154884A

CoolToppers Single Post DB Only

Extension Arms: Weldment comprised of 2.375" (60,33 mm) O.D. RS-20 (.095"-.105") (2,41 mm-2,66 mm) galvanized steel tubing, 1/4" (6,35 mm) steel plate and 1/4" (6,35 mm) diameter carbon steel J-hooks. Finish: ProShield, color specified.

Clamp: Weldment comprised of 1/4" x 3" (6,35 mm x 76 mm) HRPO flat steel and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, color specified.

CoolTopper Shade Top: Heavy duty, 62.9 mils (1.6 mm) thick professional grade shade fabric for tensioned structures and other shade applications. Made from UV stabilized HDPE monofilament and tape yarns. Specialized lock stitch knit for more air movement and better channeling of cooling breezeways. Constructed to block up to 97.7% of harmful UV sun rays. Fade and tear resistant, will not crack, rot or fray. Tensile strength warp 142.75 lbs. weft 560.67 lbs. Tear strength warp 42.03 lb. and weft 80.70 lbs.. Burst pressure 507.63 PSI. Remove fabric when wind speed is expected to exceed 90 mph and snow load is expected to exceed 5 psf, per International Building Code (IBC) 2009.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

211190A

Tree House Roof w/Stack and w/Kids Only sign

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Roof Frame: Fabricated from 3/16" x 6" (4,75 mm x 152 mm) aluminum 5052-H32 angle. Finish: ProShield, tan in color.

Roof Bracket: Fabricated from 7 GA. HRPO steel sheet. Finish: ProShield, tan in color.

Roof Post Cap: Weldment comprised of 4 5/8" (117,48 mm) O.D. x 3/16" (4,75 mm) wall aluminum tube and 3/16" (4,75 mm) thick aluminum plate. Finish: ProShield, tan in color.

Roof/Trim Boards: Recycled 1 1/2" x 3 1/2" and 1 1/2" x 5 1/2" high-density polyethylene, cedar and mink in color.

Smoke Stack: Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125") (3,17 mm) wall galvanized steel tube, 3/16" (4,75 mm) HRPO steel plate and 14 GA. (.078") (1,98 mm) galvanized steel sheet. Finish: ProShield, black in color.

123333B

Rollerslide 56"Dk DB

Rail: 1 1/8" (28,58 mm) O.D. 6061-T6 aluminum extrusion with 5/16" (7,92 mm) walls. Finish: ProShield, color specified.

Rollers: Fabricated from 1.900" (48,26 mm) O.D. x 16 GA (.060") (1,52 mm) galvanized steel tubing. Finish: TenderTuff, color specified.

Hood: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Rails: Extruded from 6005-T1 aluminum. Finish: ProShield, color specified.

Roller Shafts: Fabricated from 1/2" (305 mm) diameter CRS zinc-plated with yellow chromate finish.

Support Leg: Fabricated from 1.900" (48,26 mm) O.D. RS-20 (.090" - .100") (2,28 mm-2,54 mm) galvanized steel tubing. Finish: ProShield, color specified.

Top Plate: Formed from 10 GA (.135") (3,43 mm) 304-2B SST. Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Rail Spacer: Fabricated from 1.312" (33,32 mm) O.D. x 16 GA (.065") (1,65 mm) steel tubing. Finish: ProShield, color specified.

Tube: 1 1/8" O.D. x 1 5/8" long aluminum tube. Finish: ProShield, color specified.

130800C

Gemini SlideWinder2 48"Dk DB 1 Straight 3 Right

Rail: 1 1/8" (28,58 mm) O.D. 6061-T6 aluminum extrusion with 5/16" (7,92 mm) walls. Finish: ProShield, color specified.

Exit Footer: Weldment comprised of 2.375" (60,32 mm) RS-20 (.095" - .105") (2,41 mm-2,66 mm) galvanized steel tubing and 1/4" x 4" x 11 3/4" (6,35 mm x 102 mm x 298,45 mm) mounting plate. Finish: ProShield, color specified.

Rail Spacer: Fabricated from 1.312" (33,32 mm) O.D. x 16 Ga. (.065") (1,65 mm) steel tubing. Finish: ProShield, color specified.

Mid-Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090" - .100") (2,28 mm-2,54 mm) galvanized steel tubing and 7 GA. (.179") (4,54 mm) HRPO steel strap. Finish: ProShield, color specified.

Support Base (SM): Weldment comprised of 1.660" (42,16 mm) O.D. RS-20 (.085" - .095") (2,16 mm-2,41 mm) galvanized steel tubing and 1/4" x 3" x 8" (6,35 mm x 76 mm x 203 mm) mounting plate. Finish: ProShield, color specified.

Slide Sections: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

169316A

SlideWinder2 w/Tree Branch Support 72"Dk DB

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Rail: 1 1/8" (28,58 mm) O.D. 6061-T6 aluminum extrusion with 5/16" (7,92 mm) walls. Finish: ProShield, color specified.

Slide Sections: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Rail Spacer: Fabricated from 1.312" (33,32 mm) O.D. x 16 Ga. (.065") (1,65 mm) steel tubing. Finish: ProShield, color specified.

Exit Footer: Weldment comprised of 2.375" (60,33 mm) O.D. RS-20 (.095" - .105") (2,41 mm-2,66 mm) galvanized steel tubing and 1/4" x 3" x 7 1/2" (6,35 mm x 76 mm x 191 mm) HRPO steel mounting plate. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Theme Support: Weldment comprised of 5.000" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) wall galvanized steel tubing, 3.500" (88,9 mm) O.D. RS20 (.125") (3,17 mm) wall galvanized steel tubing, 3/16" (4,75 mm) HRPO steel plate and 3/16" (4,75 mm) stainless steel sheet. Finish: Epoxy coated with a theme texture.

100041A

Curved Balance Beam DB

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Balance Beam: Weldment comprised of 1 1/2" (38,1 mm) x 3" (76 mm) x 11 GA (.120") (3,04 mm) rectangular steel tubing. Finish: TenderTuff, color specified.

Support Leg: Weldment comprised of 2 3/8" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) galvanized steel tubing and 3/8" x 4" (60,33 mm x 102 mm) mounting plate. Finish: ProShield, color specified.

182503C

Welcome Sign (LSI Provided) Ages 5-12 years Direct Bury

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Sign Panel: Panel is fabricated from 1/8" (.125")(3,17 mm) aluminum plate. Finish: ProShield®, gray in color. (Sign) Digital image is transferred to a 1/8" (.125")(3,17 mm) ProShield coated aluminum plate, then infused into the ProShield.

Post: Weldment comprised 2.375" (60,33 mm) O.D. RS20 (.095-.105) (2,41 mm-2,67 mm) wall galvanized tube, 1/4" (6,35 mm) HRPO steel sheet and aluminum post cap. Finish: ProShield, color specified.

215-2.23.6 Motion Play Structures

218915A

Global Motion DB Only

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Spinner Top/Bottom: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

Top, Middle & Bottom Pipe: Weldment comprised of 2.375" (60,32 mm) O.D. RS20 (.095"-.105")(2,41 mm-2,66 mm) galvanized steel tube, 1/4" (6,35 mm) thick HRPO steel plate and 3/8" (9,52 mm) thick stainless steel tab. Finish: ProShield, color specified.

Center Post: 6.000" (152 mm) O.D. (.250")(6,35 mm) wall HR Black D.O.M. Steel Tube. Finish: ProShield®, color specified.

Hub Clamp: 12 GA. (.109")(2,76 mm) Thick stainless steel.

Base Bushing: Oil-Filled UHMW PE.

Rope Casting: Cast Aluminum. Finish: ProShield, black in color.

Rib: Weldment comprised of 1.5" (38,1 mm) x 3.0" (76,2 mm) x .180" (4,57 mm) wall HRPO steel tube, 3/8" (9,52 mm) thick stainless steel tab, 3/8" (9,52 mm) O.D. stainless steel pin, 3/8" (9,52 mm) thick HRPO steel plate and 1/4" (6,35 mm) thick HRPO steel plate. Finish: ProShield®, color specified.

Belt Plate: 7GA. (.179")(4,54 mm) Thick HRPO steel plate. Finish: ProShield, black in color.

Belt Platform: Made from .315" (8,00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plies, 58" (1473 mm) diameter, black in color.

GripX Platform: 3/4" (19,05 mm) Thick recycled Permalene®, black in color.

Belt Plate: 7GA. (.179")(4,54 mm) Thick HRPO steel plate. Finish: ProShield, black in color.

Belt Platform: Made from .315" (8,00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plies, 58" (1473 mm) diameter, black in color.

Net: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core, red or black in color. (Cable Connectors) 6063-T6 aluminum.

Bottom Rib: 7GA. (.179")(4,54 mm) Thick HRPO steel plate. Finish: ProShield, black in color.

Bottom Mount: Weldment comprised of 7.000" (177 mm) O.D. x .188" (4,77 mm) wall stainless steel tube and 1/4" (6,35 mm) thick HRPO steel plate. Finish: ProShield, black in color.

Trim Ring & Trim Spacer: Recycled Permalene, black in color.

Shock: 70 Series.

Hand Grip: Weldment comprised of 1.125" (28,57 mm) O.D. x 11 GA. (.120")(3,05 mm) wall steel tube and 7 GA. (.179")(4,54 mm) thick HRPO steel sheet. Finish: TenderTuff™ coated, gray in color.

Brake Cover: Recycled Permalene, black in color.

Mounting Hub Assembly: Comprised of 1/2" (12,7 mm) thick stainless steel plate, 11 Ga. (.120")(3,05 mm) stainless steel sheet, steel bearing shaft, bronze bearings, oilite bearings and stainless steel fasteners.

174018A

Belt Seat ProGuard Chains for 8' Beam Height

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Belt Seat: Molded from UV stabilized black EPDM rubber encapsulating a weldment comprised of a 22 GA (.029") (0,74 mm) spring stainless steel sheet and (4) .105" (2,67 mm) thick stainless steel washers. The belt seat elliptical shape measures 7" (178 mm) wide x 26" (660 mm) long x .700" (17,78 mm) thick.

Bolt Link: Stainless Steel

Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.

176038A

Full Bucket Seat ProGuard Chains for 8' Beam Height

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Full Bucket Seat: Made of U.V. stabilized high-quality black rubber encapsulating a 24 GA (.024") (0,61 mm) stainless steel reinforcement plate. Handles cast from 356-T6 aluminum alloy with black polyarmor paint finish. Handles attach to seat with (3) 1/4" (6,35 mm) x 1 5/16" (33,32 mm) long stainless steel rivets. The full bucket measures 9" (229 mm) deep x 10 1/2" (266,7 mm) wide.

Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.

177351A

Molded Bucket Seat (5-12 yrs) w/Harness ProGuard Chains for 8' Beam Height

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Mounting Bracket: Cast from 535 aluminum magnesium.

Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (.120") (3,04 mm) HRPO steel sheet.

Bucket Seat Assy: (Bucket Seat & Yoke) Rotationally molded from U.V. stabilized linear low density polyethylene, color specified. (Pipebolt) Made from 1.125" (28,58 mm) O.D. 6005-T5 threaded anodized aluminum tube. (Bearings) UHMW PE lubricated. (Brackets) Made from 356-T6 aluminum.

Dbl. Pivot Block: Fabricated from 6061-T6 Aluminum with bronze oil impregnated bearing.

Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.

221292A

5" Arch Swing Frame 8' Beam Height Only

Swing Beam: Weldment comprised of tee clamps and 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125" (3,17 mm) W. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Arch Posts: See PlayBooster (PB) General Specifications.

Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

221293A

5" Arch Swing Frame Additional Bay 8' Beam Height Only

Swing Beam: Weldment comprised of tee clamps and 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125" (3,17 mm) W. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Arch Posts: See PlayBooster (PB) General Specifications.

Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

152179A

Saddle Spinner DB 12"Height

Shaft Assembly: (Spinner Seat Post) Weldment comprised of 2.875" (73,03 mm) O.D. RS40 (.160"-.170") (4,06 mm-4,32 mm) Wall galvanized steel tubing, 1.250" (31,75 mm) O.D. steel shaft, 12 Ga. (.105") (2,66 mm) HR flat steel and 1144 steel collar. Finish: ProShield, color specified. (Sleeve/Plate) Weldment comprised of 1/4" (6,35 mm) sheet HRPO steel and 2.875" (73,03 mm) O.D. schedule 80 steel tubing. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Spinner Seat: Rotationally molded from U.V. stabilized linear low density polyethylene measuring 18 1/4" (463,55 mm) wide x 7" (178 mm) high, color specified.

Rubber Gasket: Made from 50 durometer neoprene.

215-2.23.7 Log Benches

173595A

Log Bench DB

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Leg: Fabricated from 5.00" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) galvanized steel tubing. Finish: ProShield, brown in color.

Log Bench Assembly: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tubing and 5.00" (127 mm) O.D. x 11 GA. (.120") (3,04 mm) galvanized steel tubing. Finish: ProShield, brown in color. (Log-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

215-2.23.8 Nature Discovery Area

Nature discover area shall contain at a minimum, 3 large fallen tree sections from the project site in order to reuse portions of the large sycamore trees shown for removal. See drawings for locations of Sycamore trees and detail for the Nature Discovery Area.

The largest most diameter sections of fallen trees trunks shall be used. Each fallen tree shall section be 15-20-feet in length and have at least 80 percent of the tree logs shall be greater than 12" in diameter. Contractor shall submit to the City, the portions of trees to be used for approval prior to final cutting and installation.

All tree logs shall be securely anchored into the ground with No. 6 steel reinforcing bars anchored into concrete footings 12-inches in diameter and 24-inches deep. At a minimum, not less than four anchor stakes shall be provided for each tree log, installed at angles to prevent rolling.

Entire Nature Discovery Areas shall contain blended mulch 6-inches thick to the limits shown on the drawings. Two 18"x24" aluminum signs mounted on telespar posts 60-inches high with concrete footings shall be provided and shall be field located by the City.

215-2.23.9 Accessible Play Area Ramps

Each Play area shall be furnished with a concrete ADA accessible ramp of length and width shown in the Drawings. Each ramp shall be a maximum of 1:16 (6.25%) longitudinal slope and 1:20 (5%) cross slope. No part of the ramp shall encroach into the play structures' fall zone. Concrete for accessible play area ramps shall comply with Sections 201-1 and 303-5 of this document.

215-2.24 Cut Stone Seat Walls

Cut stone seat walls shall be 2-feet tall, 1.5 to 2-feet wide and 5-6 feet long. Stone shall be solid, quarry cut granite, small-medium grain or approved equal. Granite shall be grey, beige, or a combination of both colors as approved by the City. Green, black, dark brown, or red is not permitted. All exposed faces of granite stone shall be rough, free of drill holes, split lines and have no smooth saw cut faces or sharp edges. Stone corners shall not contain sharp angle points. Stone shall be free of any cracking and fractured faces.

Contact: Swenson Granite Works, (203) 270-6644, www.swensongranite.com

Contractor shall place cut stone seat walls to the locations as directed by the Engineer adjacent to the basketball court landscaping. Seat wall shall be installed level with base of seat wall 6" to 8" blow finish grade. Subgrade shall be compacted to a relative compaction of 90%. Seat walls shall not be placed over underground conduits, pipelines or irrigation pipeline. Contractor shall furnish and install a total of 8 separate seat walls as shown on the drawings.

SECTION 217 – BEDDING AND BACKFILL MATERIALS

217-1 BEDDING MATERIAL

217-1.1 General

Delete and replace with the following:

Bedding material shall be free draining granular material as specified in the Special Provisions or otherwise shown on the plans.

217-1.2 Bedding Material for Plastic Pipe

Delete and replace with the following:

Bedding for plastic pipe shall be disintegrated granite per Section 200-2.7.

217-1.3 Bedding Material for Reinforced Concrete Pipe and Box Culverts

Add the following:

Bedding shall be 3/4" crushed rock per Section 200-1.2.

217-1.4 Bedding Material for Electrical and Communication Conduits

Add the following:

Bedding shall be sand per Section 200-1.5.

217-2 TRENCH BACKFILL

217-2.2 Stones, Boulders and Broken Concrete

Delete this section and replace with the following:

The maximum size of material to be placed as trench backfill shall be as shown in Table 217-2.2, except for in the pipe zone in which no particle shall exceed the size required for the pipe zone material. Boulders, broken concrete and bituminous pavement shall not be placed, dispersed, or mixed within the backfill material.

**SECTION 218 – PREFABRICATED RESTROOM
BUILDING AND DISC GOLF CONCESSION BUILDING**

Add the following section:

218-1 GENERAL

218-1.1 Clarification of Prefabricated Building and Site Installation

The prefabricated structures in this bid is are offsite constructed “products” and not “typical” general construction.

The installation of the product on site is general construction, which must be coordinated between the General Contractor and the Building Design/Build Subcontractor. Specifications for the building foundation/pad shall be provided herein by the specified Design/Build Subcontractor. Due to the responsibility of the specified Building Subcontractor for architecture, engineering and a five-year warranty, the site pad/foundation must meet the Subcontractor’s design so the pad and building can be considered from a single source for warranty purposes. The Subcontractor must accept the pad and compactions tests before they take responsibility for the entire system under their warranty.

218-1.2 Architectural Design/Engineering and Insurance Responsibility

While the City of Santee has provided bid specifications and a design for the building, the Building Design/Build Subcontractor remains legally responsible for architecture, engineering, and all applicable building, safety, health, fire, and accessibility code compliance. Since they hold professional design responsibility to the owner, the Building Subcontractor must furnish certification that they provide product liability insurance in the amounts required by the general specifications to cover property damage and personal injury. Final drawings shall be stamped by a California engineer and California Department of Housing and Community Development, suitable for local permitting.

218-1.2.1 Errors and Omissions Insurance

The Building Design/Build Subcontractor must also provide an additional Professional Architectural and Engineering Errors and Omissions insurance, in the minimum amount of \$2,000,000, to cover claims against the owner or the general contractor for State and Federal ADA handicapped accessibility and other design/engineering code issues. This Errors and Omission Policy must remain in effect for 5 years from the completion and owner acceptance of the project. Product liability insurance (since it does not cover professional design responsibility only) will be insufficient for this bid and will be cause for rejection of the bidder.

218-1.2.2 Additional Insurance

The Subcontractor may request invoicing for a percentage of building completion in-plant, monthly. Under UCC law, this means that the Subcontractor is turning over responsibility for the portion invoiced to the owner yet the building will not be on the owner’s property and may not be covered by the owners insurance. Therefore, the

Building Subcontractor must provide a separate insurance policy insuring the Owner and General Contractor as additionally insured for liability, damage and/or vandalism to the building while in the manufacturing facility, while in transit, and/or while in storage at a certified bonded storage facility or at the final project site for up to \$200,000 for each prefabricated building module, until the building is final accepted by owner.

218-2 PREFABRICATED BUILDING SUBCONTRACTOR RESPONSIBILITY

218-2.1 General Scope of Work

The Prefabricated Building Subcontractor will provide to the General Contractor final building design architectural drawings and engineering calculations under the responsibility of a licensed structural engineer, in compliance with all local, state and federal codes. The design/build subcontractor shall construct the building offsite as a permanently relocatable building, transport it to the final required destination, and install the building turnkey, on a General Contractor prepared pad per the Plans included in this bid.

218-2.2 Licensing

The Building Subcontractor must comply with all the State of California; Department of Housing and Community Development, prefabricated "Commercial Modular Requirements" as follows:

1. The building *manufacturer* must be licensed by the State of California, Department of Housing and Community Development as a manufacturer.
2. The selling dealer (if applicable) must be a California licensed dealer and present their license for verification with the bid.
3. The licensed dealer must also possess a State of California Contractors License Board Class B License and present their license for verification with the bid.

218-2.3 Bid Standard

The City of Santee understands that there are several firms who design and build various types of public restroom building in varying quality and architectural styles, using similar or different construction methods and materials. For the purpose of this bid, the owner has selected:

Public Restroom Company (PRC), 2587 Business Parkway, Minden, NV 89423 and specifies herein that this firm is the standard for architectural design (safety, green design, code compliance, and site specific compatibility.) PRC is also the standard of building performance and quality for the 50 year building design-life with low-maintenance based upon the longevity of the materials selected. Other firms quoting "or equal" whose criteria and standards do not comply will be rejected.

Contact: Chad Kaufman, VP of Sales and Marketing
Phone: 888-888-2060 ext. 109
Fax: 888-888-1448
Email: chad@publicrestroomcompany.com
Web: www.publicrestroomcompany.com

Pre-cast structures are not acceptable.

218-2.3.1 Or Equal Subcontractors

The City of Santee may also allow other firms to become qualified to bid, but any firms so authorized to bid must fully comply with these bid specifications and plans, or be subject to post bid rejection. In order to provide full and open competition, other firms may request approval as an “or equal”, however the Contractor must provide separate line item pricing for the “or equal” restroom in addition to pricing for the “specified” restroom. The City of Santee will decide which restroom product they want, and not jeopardize the Contractors bid if and when presenting an “or equal” solution.

- a) Or Equal applicant shall provide with their bid submission, scaled floor plans and elevations, to show general architectural design criteria is met.
- b) Or Equal applicant shall provide with their bid submission, a written list of each and every deviation from the published bid specifications/plans. Lack of specificity to each deviation from the bid specifications will be cause for rejection.
- c) Or Equal applicant shall provide with their bid submission, manufacturer’s certification of test compliance from a national independent testing laboratory (within the past year) to support the claim for absorption resistance of the slab type that will be used in their proposed restroom. The written report must state the concrete compressive strength (minimum of 7,000 PSI) and absorption resistance (not greater than 3%) per ASTM standard #C39 and #C642, respectively.
- d) Or Equal applicant must provide a list of every building they designed and built over the last 3 years utilizing the same building materials/systems design criteria as published in this bid. Provide date of building bid, date of completion, and most knowledgeable owner contact.
- e) Or equal applicant shall provide certification of the special insurance required in this bid.
- f) Or Equal applicant shall be responsible for and bear all cost for architecture, plan checks, design and structural engineering and all fees in obtaining approvals and permits from applicable agencies.

The City of Santee or their consultant will be solely responsible for the decision to accept or reject the “or equal” submission.

218-2.4 Warranty and Guarantee

At the project conclusion, the Building Subcontractor shall furnish two sets of complete maintenance manuals including a trouble shooting guide, location of manufacturers of key components for replacement parts together with final as-built plans, and a five (5) year warranty to the Owner or General Contractor.

The off-site restroom construction requires that a licensed third party inspection firm provide the owner and the local building official with certification and compliance for the building with the approved plans and specifications. A certificate of compliance shall be issued by this inspector to the local building official to provide certification that the building meet and or exceed the approved plans and applicable codes.

218-3 GENERAL CONTRACTOR RESPONSIBILITY

218-3.1 General Scope of Work

The specified prefabricated buildings require coordination between the General Contractor (who prepares the site pad and delivery access for the prefabricated building) and the Prefabricated Building Subcontractor (who completes the architectural design, engineering, off-site building construction, delivery and installation on site.) The specified prefabricated building specifications include unique components/systems which are custom to the Prefabricated Building Subcontractor. Since the restroom subcontractor is responsible for design, additional insurance requirements for errors and omissions is required.

The General Contractor for this project is responsible for the site survey and staking the building locations, finished slab survey elevations and marking on site, construction and compaction of the required building pads; access to the site for a large crane and tractor trailers delivering the prefabricated building; providing water, sewer, and power at a point of connection (POC) within 6 feet of the building and at the depth required by the Building Subcontractor and local code; and the installation of any sidewalks outside the building footprint.

The General Contractor is responsible for verification to the Building Subcontractor design/build firm that there are no unanticipated site delivery issues such as overhead wires, trees, tree roots, or existing grade changes and that prevent a clear path of travel between a roadway and the final site exists for a tractor trailer and crane to expedite delivery. The Design/Build Subcontractor requires that the General Contractor certify that the required delivery crane must be able to set the building modules within 35' distance from the center of the building to the center of the crane hoist.

218-3.2 Site Scope of Work

The General Contractor shall prepare the restroom building subgrade to receive the prefabricated building in accordance with the bid subgrade preparation drawings or foundation plan.

1. The building subgrade/footings shall be constructed per the bid drawings.
2. The General Contractor shall provide water point of service at 30" below finished building slabs; sewer at 24" below the finished building slabs; and electrical at 36" below the finished building slabs or other per bid plans.
3. General Contractor shall coordinate with Building Subcontractor to provide full site delivery access for a 70' tractor-trailer and hydro crane to the final building sites.
4. If the final site access is over existing sidewalks, utilities, or landscaping, the General Contractor shall be responsible for plating and or tree trimming, utility line removal, or other to protect any existing conditions.
5. The hydro crane must be able to locate no greater than 35' from the center point of the building to the center point of the crane.
6. The utilities shall be furnished per bid site plans at specified points of connection (POC) nominally 6' from the building lines.
7. General Contractor shall furnish and install final grading, landscaping and

sidewalks.

218-3.2.1 Connection to Utilities

The restroom subcontractor will stub-out: Electrical, Water, and Sewer at the proper POINT OF CONNECTION AND AT THE PROPER ELEVATION BELOW GRADE, for this project. Restroom subcontractor shall provide final hook up of the water from building to POC; sewer hookup to POC; and electrical sleeve from building panel to POC only. Final utility connections shall be by General Contractor or others. General Contractor shall flush the water lines thoroughly before making final water connection to the building. Thoroughly flushing the water lines for AT LEAST 30 MINUTES is critical to ensure that the new code required low-flow fixtures and flush valves that are extremely sensitive to particulate matter in the water will not malfunction.

218-4 PREFABRICATED BUILDING COMPONENTS

218-4.1 General

The City of Santee has evaluated several prefabricated building subcontractors. This bid requires such building be used in lieu of site-built traditional construction because of the unique built-in advantages guaranteed by the design/build firm. This technology includes many new innovations such as non-absorbent concrete; anti-microbial components to reduce health risks; built in vandal resistance design; lowered maintenance and long term warranties that reduce owner risk for failure. The specifications below are written around this new technology.

218-4.2 Mat Engineered Concrete Building Slab/Foundation

1. The mat engineered 8" thick slab/foundation shall be engineered and constructed to withstand the transportation weight of the building without cracking and to resist absorption from any liquids deposited on the surface. The concrete slab shall be constructed inside a steel angle curb, reinforced with dual mats (tension and compression,) and poured with a custom concrete formula with special admixtures to create a finished slab that is water proof for life.
2. The building slab/foundation will include the area under the covered entry.
3. Perimeter Steel Curb: 5/16" 50,000 kip steel 6" X 6" welded continuous angle.
4. Rebar Steel Mat: Two layers of 40,000 tensile steel rebar in varying sizes per engineers requirements, including a perimeter structural continuous grade beam design inside the exterior steel angle and at any other location deemed by the engineer of record as required for the use intended. In coastal locations or when required for corrosion resistance rebar shall be epoxy coated or fiberglass to resist permanent corrosion. Rebar mats shall be wire tied to code with a minimum of three turns of the wire and overlaps shall be minimum of 15 diameters for any connection.
5. All slab openings shall be surrounded with two layers of steel collars as required by the engineer of record to stop corner cracking and to reinforce the openings for lifting.
6. 1" thick by 3" minimum length threaded nuts shall be welded to the steel perimeter frame with continuous ¼" fillet welds. Nuts shall be welded to common steel plates per the engineer of records design and attached to the interior steel

rebar structural mats.

7. The engineer of record shall provide lifting locations with sufficient reinforcement to allow the safe lifting of the entire designed weight of the structure with dual 1" steel bolts and washers at each lifting location. The number of lifting locations with each location fitted with removable $\frac{3}{4}$ " 8" X 8" 50,000 tensile strength steel angles shall be determined by the engineer of record.
8. The slab shall be poured over a 1" thick steel plate table. The concrete mix design shall not exceed a 3" slump and shall be stinger vibrated for maximum consolidation. All floors shall slope to any floor drains within each room and if no floor drain is present the floor should not slope. The surface shall be a very light broom that should meet a coefficient of friction on the surface of .06. Birdbaths shall be cause for rejection.
9. The steel perimeter angle will remain below the concrete surface by nominal two inches to prevent corrosion. After the site concrete sidewalks are poured, the joint shall be full flow sealed with self-leveling grey urethane caulk to prevent penetration of water into the joint.
10. The building shall be designed for future relocation and shall provide protection for the lifting openings in the mat slab so that the threaded openings will be available for future use if needed.
11. The building system shall be designed for placement on a general contractor site prepared class 2 building subgrade/and or footings as required by code, per the bid drawings, suitable for 1500 pounds soil bearing capacity minimum. Any soils survey (if necessary) shall be by owner or engineer of record.

218-4.2.1 Required Independent Testing Laboratory Certification

The prefabricated building slabs special concrete technology claims to be water and urine resistant for life due to special additive technology. The Building Subcontractor must furnish a test certification of compliance from a national independent testing laboratory to support the claim for absorption resistance. The written report must state the concrete compressive strength (minimum of 7,000 PSI) and absorption resistance (not greater than 3%) per ASTM standard #C642 and #C39 respectively. Since this non-absorbency capability is so significant, the Design/Build Subcontractor must provide a general certification of compliance.

218-4.3 Exterior and Interior Masonry Block Walls

The block walls shall be nominal 8" x 16" CMU. The building corners shall have special corner return block for structural integrity. All CMU shall be custom-fabricated with an enlarged interior hole for placement of the grout and vertical rebar. The block walls shall be nominal 8" x 16" CMU. The building corners shall have special corner return block that matches the exterior finish and creates a uniform appearance. All CMU shall be custom fabricated with an enlarged interior hole for placement of the grout and vertical rebar. The exterior walls shall be 4" thickness per State of California codes or engineering for wind and seismic. The interior walls shall be 4" block to nominally 7'-4" above finished floor and wood-framed with applicable required finishes above for pony and gable walls. A structural steel tubular .188 wall cap beam shall be welded to 5/16" 40,000 kip steel plate embeds, at intervals per the engineer of record, within the masonry wall. Cap beam shall be ZRC primed and painted, color to be selected by owner.

The 8" mat engineered concrete slab shall be cured a minimum of 7 days. Holes for vertical dowels shall be drilled into the mat engineered slab avoiding any grade beams or other structural reinforcement. Once the holes are drilled, blow out the remaining material and using two part structural epoxy, wet set the #3 or #4 vertical rebar (as specified on the engineering calculations into holes drilled to the depth per the engineer of record requirements. Each rebar shall be held vertical to allow equal epoxy support to each dowel during the drying period. Engineering calculations require that rebar shall be installed in each concrete block center void or every block hole. The engineered uplift on each rebar shall be sufficient to restrain any load imposed on the masonry block wall for vertical rebar pull out from the concrete mat engineered slab.

218-4.4 Roof System

1. Restroom roof shall be structural 24 gauge steel, factory Kynar-finished, standing seam roof panels, over a structural steel tubular cross frame, over steel tubular truss frames. The front, mid and rear steel tubular trusses shall be welded to steel plate imbeds in the top of the masonry walls.
2. The restroom ventilation screens (described in a following section) shall be attached to the truss frames with vandal-resistant stainless steel fasteners.
3. Roof color shall be 'Hartford Green' by McElroy Metal or approved equal.
4. The roof design shall exceed compliance with local code at 20 PSF live load and wind load "C".
5. Covered Entry at restroom: Vertical posts shall be 6" x 6" structural steel and steel truss at covered restroom entry shall be 4" x 6" steel, primed and painted in a color selected by owner.
6. Skylights in restroom building shall be 24" x 48", custom-fabricated out of translucent lexan and structural steel and flashed to match the roof color.

218-4.5 Interior Wall Finish

Interior precision CMU block masonry walls (Restroom and Disc Golf Concession Only) shall be smoothed to a pebble grain finish with 2-4 mil layers of 7-day curing block fillers and painted with two additional 4 mil layers of industrial high solids (white) industrial grade enamel. Walls shall be painted white with industrial high solids enamel. Utility chase and storage area shall be natural block finish.

218-4.6 Exterior Wall Finish, Masonry and Gable

The building exterior finish shall be a mix of split face (courses 1-4) and precision (courses 5-11) 8" x 16" CMU to wall height per the exterior elevations in the bid plans. The block shall be covered with 2-4 mil layers of 7-day curing block fillers and painted with two additional 4 mil layers of industrial high solids industrial grade enamel, color selected by Owner. The gable area finish shall be 24 gauge corrugated panels, factory Kynar-finished, color selected by owner.

218-4.7 Ventilation System (Restroom)

Gables: Shall be woven ¼" X 1" X 1", 316T, stainless steel wire mesh set in welded stainless steel angles attached to the masonry wall with vandal resistant stainless steel screws, per plans.

218-4.8 Doors and Gates

1. The restroom entry doors shall be 7' 0" high, custom-fabricated, 14 gauge steel; reinforced with concealed 14 gauge steel ribs welded at 6" intervals on each face; reinforced with a welded plate for door closer mounting; hung on a single continuous, 1 million cycle, aluminum gear hinge with stainless steel vandal resistant screws at nominal 4" on center. The doors shall weigh nominally 176 lbs each for a 36" X 84" door. Custom fabricated 14 gauge steel door jambs with 4" steel heads shall be welded to the steel cap beam and be solid filled with 3000 psi masonry grout mix. Doors shall be primed and painted with two coats of industrial enamel, color selected by owner.
2. All exterior entry doors shall have a ¼" thick stainless steel "Z-shaped" anti-microbial pull handles and Schlage B-600 series commercial series dead bolts.
3. Stainless steel vandal resistant fasteners shall be used on all hardware.
4. Storage area in restroom shall have a sectional 20 gauge garage door painted in a color selected by owner with an interior slide lock mechanism.
5. Disc Golf Concession building shall have a 20 gauge coiling service door with interior slide lock mechanism.

218-4.9 Specialties

1. All specialty washroom equipment shall be commercial grade stainless steel fastened securely to walls with vandal resistant stainless steel screws to avoid removal by vandals as follows:
2. Toilet paper holders shall be, covered, three-roll, 18 gauge stainless steel with lock. Toilet paper holders shall be attached to block walls with 4 epoxy bedded vandal resistant stainless steel fasteners.
3. Stainless steel grab bars to code shall be 1 ¼" minimum exposed fastener vandal resistant design and installed at each accessible water closet.
4. Cast Aluminum California Title-24 compliant signage shall be recessed into block surface flush with masonry exterior and door sign shall be blind fastened with epoxy adhesive and stainless steel fasteners. Wall signs shall have raised pointed Braille tips. Single-occupant restroom signage shall comply with AB1732, identifying the restrooms as an "All Gender Restroom."
5. The toilet partition walls shall be concrete precision block finished the same as the building interior walls, structurally reinforced to support load of 350 lbs minimum and raised 12" above finished floor. The toilet partition doors shall be custom fabricated, ¾" Solid Color Composite panels, color to be "Slate." The doors are secured by stainless steel fasteners to a continuous stainless steel spring-loaded 54" hinge and the door latch shall be custom-fabricated stainless steel design that is vandal-resistant and has an anti-microbial finish. There shall be a coat hook on the back of each partition door.

218-4.10 Plumbing

1. Building shall be fully compliant with current with the following codes:
 - a. All applicable State of California Building Codes. Latest edition applicable.
 - b. California Plumbing Code. Latest edition applicable.
2. GENERAL: All components and fabrications shall be designed to reduce life cycle maintenance, be compatible with current maintenance spare parts, and

shall be listed in a spare parts/maintenance manual (two copies) delivered in utility chase of building.

3. WATER PIPING: Shall be type L copper soldered per code above grade and type K with silver solder below grade. All water piping shall be designed and constructed with high and low point drain fittings. All piping shall be mounted on Uni-strut wall brackets with neoprene isolators, to code.
4. WATER PRESSURE GAUGE/VALVE COMBO: install three commercial grade industrial water pressure gauges (one on incoming line, one at pressure regulator valve and one after water filter), isolation ball valves, 150 PSI pressure regulator with wye strainer, 10-micron water filter with clear canister, and check valve.
5. PLUMBING FAUCETS, ISOLATION VALVES AND ACTUATORS: All fixtures except those with flush valves shall be isolated with ball valves for each fixture, concealed antimicrobial impregnated flush handle valves, and metered push-button lavatory faucets.
6. DWV PIPING: DWV piping shall be concealed behind the wall. DWV piping shall be PVC DWV, solvent welded, for all concealed piping. A cast iron no hub DWV vent pipe with a cast iron roof mounted vandal cap vent shall be required, through the roof.
7. REMOVABLE PIPE TRAPS: all floor drain, sink drain, and waste traps shall be removable for maintenance. Floor drains shall be trapped behind the wall in the utility chase using a combination waste and vent system. Floor drains shall be increased two pipe sizes over standard to allow code use. Trap primers for restroom floor drains shall not be used as restroom maintenance is hose-down. All surface mounted utility chase piping shall be mounted on Uni-strut with plastic isolators to code. Sink drain traps shall be concealed behind the utility chase walls where maintenance staff can access all plumbing.
8. PLUMBING FIXTURES: Plumbing fixtures shall be 14-gauge stainless steel custom-manufactured by Acorn for Public Restroom Company. Toilets shall be wall hung, rear discharge, with concealed, ADA-compliant, lever-type, flush valves. Toilet seats shall be black solid core plastic, non-flammable construction with continuous stainless steel concealed self-checking hinges. Exterior Lavatories shall have concealed remote traps behind the mechanical wall.
Schedule of fixtures:
 - a. Water Closets: Acorn Penal-Ware, 1675-W-1-HET-FVBO-9-ADA-PFS
 - b. Water Closet Flush Valve: Zurn ZH6152AV-HET-7L-BG
 - c. Lavatories: Acorn Penal-ware 1652LRB-1-DMS-03-M-H1All Gender Restroom:
 - a. Lavatories: Elkay BCR1515 Drop-in stainless sink set in a custom-fabricated, 14 gauge stainless steel counters.
 - b. Restroom Lavatory Faucet: American Standard 7500.170
9. HI-LO DRINKING FOUNTAIN: Shall be an Acorn Aqua, 14 gauge stainless steel, hi-lo, ADA accessible, drinking fountain shall be installed per plans and manufacturers recommendations.
10. FLOOR GRATES: Removable 350 lbs per square foot pultruded fiberglass non-skid floor grates shall be installed over every opening in the utility chase for OSHA compliance.
11. HOSE BIB: There shall be one Woodford 24B hose bib provided in the utility chase.
12. HOSE REEL: There shall be one commercial grade Rapid Reel hose reel (1041-GH) with a 75' commercial grade hose.

218-4.11 Electrical

1. GENERAL: Electrical system and components shall be commercial grade or better and piping conduits shall be installed on commercial Uni-strut wall hangers. Interior electrical lighting fixtures in public areas shall provide lifetime manufacturer's warranty.
2. PANEL/WIRING:
 - a. Restroom Building: One 100 amp, 120/240v, single-phase, industrial grade Panel Board, Square "D" QO series with 100 amp main circuit breaker, shall be mounted in the utility chase in the restroom building. All breakers shall be snap-on type, minimum 10,000 A.I.C. RMS (Sym). Wiring shall be copper wire #12 min in EMT piping with compression fittings.
 - b. Disc Golf Concession Building: One 60 amp, 120/240v, single-phase, industrial grade Panel Board, Square "D" QO series with 60 amp main circuit breaker, shall be mounted in the building, per plan. All breakers shall be snap-on type, minimum 10,000 A.I.C. RMS (Sym). Wiring shall be copper wire #12 min in EMT piping with compression fittings.
3. PIPING: All piping shall be surface mounted to the masonry block walls with minimum of 2" fastener penetration. EMT conduit shall be compression type. Main panel shall maintain a 30" X 36" safety code required clear space, floor to 6' above finished floor.
4. HAND DRYER: Shall be Dyson Airblade V, nickel finish, mounted adjacent to lavatories. One mounted adjacent to each lavatory.
5. WATER HEATER: Shall be tankless, Stiebel-Eltron DHC-12-E Water heater located in the utility chase. There shall be a tempering valve servicing the restroom lavatories.
6. EXTERIOR LIGHTING: Luminaire YWP610, 15 watt, LED, vandal resistant, high-impact polycarbonate lens fixtures shall be installed per plans,
7. INTERIOR LIGHTING: Luminaire SWP610, 15 watt, LED, vandal resistant high-impact polycarbonate lens fixtures shall be installed in the restrooms per plans (two in each restroom and one in All Gender restroom). The utility chase/storage room shall have five (5) 4' double-tube, 36 watt LED fixture, suitable for wet locations, with a single switch at door entry. The disc golf concession building shall have one (1) 4' double-tube, 36 watt LED fixture, suitable for wet locations, with a single switch at door entry.
8. CEILING FAN: Disc golf concession building shall contain a 52-inch diameter ceiling fan mounted to the center inside of the building, suitable for covered porches or rooms subject to moisture, 5,685 cubic feet per minute (cfm) airflow, 77 watt, white in color as manufactured by Hunter, model 54168 "Donegan Damp" or approved equal.
9. LIGHTING CONTROL: All interior restroom lighting shall be controlled by a time clock mounted in the utility chase and 2 bypass switches (one for interior lighting and one for exterior lighting), so maintenance staff can check operation during daylight hours. A single photo cell, roof mounted, and shall control all exterior lighting.
10. ELECTRICAL OUTLETS: One (1) commercial spec grade duplex outlet shall be located in the utility chase adjacent to the panel and any other location shown per plans.

218-5 SHIPPING PROTECTION

The building, while traveling over roads to the destination may encounter inclement weather or road grime that could require substantial cleaning when it arrives on site. The building shall be shrink-wrapped before transportation and sufficiently strong to arrive at the owner site intact for exterior finish protection. Materials removed on site shall be disposed of and recycled by restroom building install staff.

218-6 CERTIFICATIONS

Building shall be certified in compliance with the plan approval by the State of California, Department of Housing and Community Development. The building shall be delivered with an applied insignia; in compliance with all State regulations. The local building authority shall provide site inspections for the underground mechanical piping and final connections, footings, and access issues outside the restroom footprint. Restroom building subcontractor shall also furnish 5-year warranty, certifications for the concrete slab specification compliance, and maintenance manuals for the building and components.

218-7 FURNITURE, FIXTURES, AND EQUIPMENT

Furniture, Fixtures, and Equipment (FF&E) for the Restroom Building and the Disc Golf Concession Building shall be selected by the City at the sole discretion of the Engineer.

Payment for “**Restroom Building FF&E**” and “**Concession Building FF&E**” shall be paid for on an allowance basis for each FF&E order issued to the Contractor. This mandatory bid amount included in the bid proposal shall be used for furnishing the buildings at agreed upon unit prices when no such bid item is provided for the specific furnishings, fixtures, or equipment. This bid item shall be used at the sole discretion of the Engineer for field directed FF&E. Contractor is not entitled to any amount of the bid item unless a formal Field Directed FF&E Order has been issued to the Contractor in writing. Any remaining amount of this bid item which has not been issued to the Contractor shall be deducted from the contract.

218-8 PAYMENT

Payment for “**Prefabricated Restroom Facility**” and “**Pre-Fabricated Disc Golf Concessions Building**” shall be measured and paid for on a lump sum basis and shall include all labor, materials, equipment, tools and incidentals necessary including but not limited to; foundations, masonry, reinforcing steel, electrical, plumbing, mechanical, doors door hardware, skylights, roofing, trim, painting, interior finishing, lighting, restroom partition walls, toilets, urinals, toilet accessories, sinks, hand dryers, hand rails, locking mechanisms, coliling doors, signage, drinking fountains, connection to underground utilities, flushing, lifting, hoisting, placement, subgrade preparation aggregate base for foundations, and all items shown on the Drawins and specifications.

PART 3 CONSTRUCTION METHODS

Is amended as follows:

SECTION 300 - EARTHWORK

Is amended as follows:

300-1 CLEARING AND GRUBBING

300-1.1 General

Add the following:

It is the intent of this specification to provide for the complete removal and disposal of all obstructions and objectionable materials not specifically provided for elsewhere in the plans and specifications in order to complete all work as shown on the plans

300-1.3 Removal and Disposal of Materials

Add the following paragraphs:

No surplus material shall be disposed of within the right-of-way. The Contractor shall make arrangements to dispose of all surplus material off site and shall make every attempt to recycle the material and avoid dumping the material in a landfill. Upon request of the City, the Contractor shall show written documentation of the material disposal quantity and location.

Structures, bridges, railing, basketball goals, and other improvements shall be removed in their entirety, including concrete foundations, and disposed of off-site.

300-1.3.2 Requirements

a) Bituminous Pavement

Revise the second sentence of the first paragraph as follows:

Removal of bituminous pavement shall be along saw cut lines or by cold milling.

c) Concrete Curb, Walk, Gutters, Cross Gutters, Driveways and Alley Intersections

Revise the third sentence of the first paragraph as follows:

Removal of cross gutters, sidewalks and curbs and gutters shall be along existing control joints or expansion joints unless otherwise approved.

d) Landscaping Removal

Add the following subsection:

All landscaping, including trees, shall be removed in a manner as to not damage existing irrigation systems, surface improvements or surrounding landscaping. Stumps of trees shall be ground to a depth of 12" below finish grade and backfilled with topsoil.

All trees shown to be trimmed and remain in place shall be performed by a Certified Arborist.

The largest diameter sections of removed sycamore tree trunks shall be used in the Nature Discovery Area per Section 215-2.23.8 of these specifications.

300-1.4 Payment

Delete the first paragraph and replace with the following:

Payment for “**Clearing and Grubbing**” shall be measured and paid for on a lump sum basis. Payment shall include full compensation for removal and disposal of all resulting material including, but not limited to; dumping fees, haul off, removal of excess soil, trees, stumps, bushes, vegetation, roots, shrubs, stone, brick, fences, drainage structures, concrete channels, irrigation, telephone and electrical conduit, park lighting, kiosks, turf, mow curbs, basketball court surfacing and goals, concrete surfacing and base, curb and gutter, roadway excavation, park benches, shade structures, restroom building and foundation, drinking fountains, bridge and handrails, steel bollards, pipe gates, signs, trash receptacles, disc golf tee boxes and goals, playground sand, play structures, rubber surfacing, water line, sewer line, all rubbish and debris, whether above or below ground.

300-2 UNCLASSIFIED EXCAVATION

Is amended as follows:

300-2.9 Payment

Delete the first paragraph and replace with the following:

Payment for “**Unclassified Excavation**” shall be included in the lump sum bid price for “**Earthwork and Grading**” as shown in the bid proposal. Payment shall also include items of work described in Section 300-1. Payment shall also include for excavating, grading, sloping, shaping rounding tops of and ends of excavations, loading, disposing of surplus material, stockpiling and hauling of material generated from grading.

300-3 STRUCTURE EXCAVATION AND BACKFILL

Is amended as follows:

300-3.1 General

Upon completion of all grading work and to the finish elevations shown on the plans, the Contractor shall excavate all existing soil below building pads and place select fill as approved by the 3rd party geotechnical engineer in order to provide a suitable foundation providing a relative compaction of 95% for each building. Geotechnical engineers shall provide written certification to the City that the pads have been compacted to 95% relative compaction. For bidding purposes Contractor shall assume a depth of 4' and to the areas listed below will require excavation, and placement of select fill. The area of the Disc golf building is larger than required in the drawings in order to provide for future expansion of this building.

Restroom Building: 28' x 34'

Disc Golf Building: 20' x 25'

300-3.6 Payment

Delete and replace with the following:

Payment for **“Structure Excavation and Backfill”** shall be included in lump sum bid price for **“Earthwork and Grading”** as shown in the bid proposal and shall include the full compensation for all excavation, import select material, placement of fill, grading, shaping, compacting, consolidating, hauling, geotechnical certification and all other related work that is required under this subsection.

300-4 UNCLASSIFIED FILL

300-4.10 Payment

Delete and replace with the following:

Payment for **“Unclassified Fill”** shall be included in lump sum bid price for **“Earthwork and Grading”** as shown in the bid proposal and shall include the full compensation for all grading, shaping, compacting, consolidating, hauling, or other related work that is required under this subsection.

300-7 EARTHWORK FOR CHANNELS

300-7.6 Measurement and Payment

Delete and replace with the following:

Payment for **“Earthwork for Channels”** shall be included in lump sum bid price for **“Earthwork and Grading”** as shown in the bid proposal and shall include the full compensation for all excavation, grading, sloping, shaping, rounding of tops of ends of excavations, compacting, consolidating, loading, disposal of surplus material, stockpiling, hauling, or other related work that is required under this subsection.

300-8 GEOTEXTILES FOR DRAINAGE

300-8.1 Trench Drains

300-8.1.2 Measurement and Payment

Delete and replace with the following

Payment for geotextiles for drainage shall be included in the unit price bid for the major items of work requiring the usage of geotextile for drainages such as “Perforated Pipes, French Drains, Sub-drains, Rock Lined Weirs, Rock Cobble, bio-filtration area, playground surfacing”, etc.

300-9 GEOTEXTILES FOR EROSION CONTROL

300-9.1 Bank and Shore Protection

300-9.1.2 Measurement and Payment Delete and replace with the following

Payment for geotextiles for erosion control shall be included in the unit price bid for **“Water Pollution Control”**.

300-10 GEOTEXTILES FOR SEPARATION

300-10.1 Subgrade Enhancement

300-10.1.2 Measurement and Payment Delete and replace with the following

Payment for geotextiles for separation shall be included in the unit price bid for the item(s) of work requiring the usage of geotextile for separation including but not limited to; “rip rap energy dissipaters, playground surfacing, synthetic turf fields” etc.

300-11 STONework FOR EROSION CONTROL

300-11.2 Placing Stone Add the following:

Stone shall be placed to the required thickness, quantity and size of the stone as shown on the drawings or specified herein.

300-11.2.1 Filter Blanket Add the following section:

A filter blanket shall be provided for the installation of all stonework for erosion control where the stone size is No. 3 backing or larger. The filter blanket shall consist of a 6” layer of $\frac{3}{4}$ ” crushed rock placed over one layer of filter fabric. Filter fabric shall conform to Section 213-5.

300-11.4 Measurement and Payment Delete the first paragraph and replace with the following:

Payment for **“Energy Dissipater (Rip Rap)”** shall be measured and paid for on a cubic yard basis to the size noted on the bid schedule and shall include all labor, materials, equipment, tools and incidentals necessary including but not limited to; earthwork, preparation of subgrade, filter blanket, quarry stone placement, concrete sill and all related work necessary to complete the work. Concrete sill shall only be included when shown on the plans.

Payment for **“Energy Dissipater (Landscape Cobble)”** shall be measured and paid for on a cubic yard basis at the size noted on the Plans and Bid Schedule and shall include all labor, materials, equipment, tools and incidentals necessary including but not

limited to; earthwork, preparation of subgrade, filter blanket, landscape cobble placement, and all related work necessary to complete the work in place.

Payment for “**Energy Dissipater (No. 2 Backing)**” shall be measured and paid for on a per cubic yard basis and shall include all labor, materials, equipment, tools and incidentals necessary including but not limited to; earthwork preparation of subgrade, filter blanket, quarry stone placement and all related work necessary to complete the work.

Payment for “**Rock-Lined Weir**” shall be measured and paid for on a per cubic yard basis and shall include all labor, materials, equipment, tools and incidentals necessary including but not limited to; earthwork preparation of subgrade, filter blanket, quarry stone placement and all related work necessary to complete the work.

Payment for “**3” Crushed Rock**” shall be measured and paid for on a per cubic yard basis and shall include all labor, materials, equipment, tools and incidentals necessary including but not limited to; earthwork preparation of subgrade, filter blanket, quarry stone placement and all related work necessary to complete the work.

SECTION 301 – TREATED SOILS, SUBGRADE PREPARATION, TREATED MATERIALS, AND PLACEMENT OF BASE MATERIALS

301-1 SUBGRADE PREPARATION

301-1.2 Subgrade Preparation

Add the following paragraph:

The subgrade below all buildings (restroom building and disc golf building) shall be excavated 4-deep and receive granular select fill suitable for building structures. Subgrade for all buildings shall have a relative compaction of 95% prior to installation of any underground utilities and after utilities have been placed. The subgrade area for building preparation shall be considered 20'x20' for the disc golf building to allow for any future expansion and 30'x25' for the restroom building.

301-1.6 Adjustment of Manhole Frame and Cover Sets to Grade

Add the following paragraphs:

The Contractor shall adjust all storm drain manholes, monitoring wells, street survey monument covers within as needed, to the finished grade. Padre Dam Municipal Water District (PDMWD) will be responsible to adjust water valves and sewer manholes. The Contractor shall coordinate this with PDMWD prior to paving operations.

1. The Contractor shall locate and tie out all manholes, valve covers, vaults and survey monument covers prior to any paving operation.
2. All manholes, vaults, survey monuments and covers, and gas & water valve covers shall be thoroughly cleaned of any construction debris which may have fallen in or otherwise entered due to the Contractor's operations.
3. The survey monument covers shall be adjusted to match finish grade. The survey monuments shall be protected in place by the Contractor. If monuments require to be reset, the work shall be performed by a licensed land surveyor and all costs shall be at the Contractor's expense.

A 12" wide diameter area of asphalt shall be neatly removed to allow the adjustment of the storm drain manholes. A 6" wide diameter area of asphalt shall be neatly removed to allow the adjustment of and installation of new street survey monument boxes once the asphalt overlay work has been completed. The asphalt shall be replaced to a full depth section of street section. All associated costs shall be included in the applicable bid items.

The Contractor shall ensure that all asphalt transitions around water valves, manholes, street survey monuments and other facilities located within the area of paving are in accordance with Section 302-5.6.2.

301-2 UNTREATED BASE

301-2.4 Measurement and Payment Amend as follows:

Payment for “**Crushed Aggregate Base**” shall be measured and paid for on a compacted cubic yard basis at the thickness shown in the Bid Schedule. Unit price bid shall include full compensation for furnishing all labor, materials, tools, equipment, hauling, excavation, removal and disposal of surplus materials, compaction and all related and appurtenant work to complete the work in place.

301-6 PERMEABLE BASE Add the following subsection:

301-6.1 General

Permeable bases shall contain a layer of filter fabric between permeable material and native material/subbase in accordance with Section 213-5.

301-6.3 Measurement and Payment

Payment for “**Permeable Base**” shall be considered as included in the unit price bid for “**Biofiltration Soil Media, Mulch, and Base**” and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; permeable base material, filter fabric, washing, placement, compaction, removal and disposal of surplus materials, delivery, stockpiling, and all related and appurtenant work to complete the work in place.

SECTION 302 - ROADWAY SURFACING

302-5 ASPHALT CONCRETE PAVEMENT

302-5.1 General

Add the following:

The Contractor shall submit to the Engineer for approval, a paving operation plan which identifies the location of all longitudinal joints, transverse joints, the tonnage of asphalt concrete placed per day, the number of asphalt distribution trucks utilized per day, the location of the asphalt concrete plant, the number of rollers used for compaction, and the limits of work for the pavement operations planned for each working day. Paving operation plan shall be submitted to the Engineer for approval seven (7) calendar days in advance of paving operations.

All asphalt that has been deposited on concrete, manholes, valves, street monument covers and other utility covers shall be removed and cleaned after completion of the asphalt concrete paving.

302-5.5 Distribution and Spreading

Is amended as follows:

When atmospheric temperatures are below 70 degrees F, all truck loads shall be covered with tarpaulins. Loads shall be covered when loaded at the asphalt plant and until the asphalt concrete is transferred directly into the paver's hopper.

Distribution and spreading for all paving, including skin patches, shall be by means of a self-propelled mechanical spreading and finishing machine designed specifically for that purpose. The asphalt concrete as delivered shall be deposited directly into the hopper of the spreading and finishing machine. The asphalt concrete shall be evenly spread upon the subgrade or base to such a depth that, after rolling, it will be of the specified cross section and grade of the course being constructed.

Asphalt concrete for roadway patching shall not be piled onto the roadway for use. Asphalt patches 8-feet or wider in any dimension shall be placed by a paving machine.

The depositing, distributing, and spreading of the asphalt concrete shall be accomplished in a single, continuous operation by means of a self-propelled mechanical spreading and finishing machine design specifically for that purpose. The machine shall be equipped with a suitable full-width compacting screed capable of being accurately regulated and adjusted to distribute a layer of the material to a definite predetermined thickness. When paving is of a size or in a location that use of a self-propelled machine is impractical the Engineer may waive the self-propelled requirements.

Asphalt paving equipment shall be equipped with automatic screed controls with non-contacting sonic sensing devices. When placing asphalt concrete, the automatic controls shall control the longitudinal grade and transverse slope of the screed. Grade and slope references shall be furnished, installed and maintained by the Contractor. The longitudinal grade control system shall contain multiple sonic trackers/sensors mounted to a beam/ski not less than 20' long and shall be mounted to the longitudinal

direction of the paving equipment. The system shall automatically measure, calculate, average and adjust the screed to provide for a smooth asphalt finish profile.

Should the methods and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the requirements, including straightedge tolerance, of Section 302-5.6.2 of the Greenbook, the paving operations shall be discontinued and the Contractor shall modify his equipment or furnish substitute equipment and all work not conforming as specified shall be rejected and replaced at the Contractor's expense.

Should the automatic screed controls fail to operate properly during any day's work, the Contractor may use manual control of the spreading equipment for the remainder of the day; however, the equipment shall be corrected or replaced with alternative automatically controlled equipment conforming to the requirements in this Section before starting another day's work.

Asphalt concrete 4-inches thick or greater shall be placed in a minimum of two lifts with no lift permitted less than 1-½ inches thick for asphalt concrete containing ½" rock, or 2 ¼" for asphalt concrete containing ¾" rock.

302-5.6 Rolling

302-5.6.2 Density and Smoothness

Add the following:

Asphalt concrete not in conformance to Section 302-5.6.2 shall be rejected and repaired at the Contractor's expense as determined by the Engineer and to their satisfaction including but not limited to the following:

- a) Asphalt Concrete lower than grade:
Removal by cold milling to a minimum depth of 1½" or 3 times the maximum size aggregate for the full width of the traveled lane unless otherwise approved by the Engineer.
- b) Asphalt Concrete higher than grade:
Shall be milled by profile milling with an extra fine diamond blade milling machine in conformance to Section 302-1.4. All costs of field profiling the roadway prior to milling shall be made at the Contractor's expense. All profile milling areas shall receive a fog seal after milling work has been completed, or when approved by the Engineer; removal by cold milling to a minimum depth of 2 inches for the full width of the traveled lane unless otherwise approved.

No additional compensation will be made to the Contractor to comply with this section.

302-5.7 Joints

Delete and replace with the following:

Joints between successive passes shall be vertical and at right angles to the line of the improvements. Care shall be exercised in connection with the construction of all joints to ensure that the surface of the pavement is true to grade and cross section.

Paving operations shall be planned such that paving will be completed to the full width of the roadway with "hot joints" having an internal temperature greater than 225 degrees Fahrenheit for each consecutive pass.

When full width paving cannot be feasibly performed and when approved by the Engineer, the final longitudinal joint resulting in a "cold joint" shall be placed on the edge of the lane lines between opposing traffic only and when approved by the Engineer. Upon commencement of paving operations, the Contractor shall apply a tack coat to the faces of the "cold joint" in accordance with Section 302-5.4.

302-5.7.1 Longitudinal Joints

Add the following subsection:

Longitudinal joints shall be placed on the edge of traveled lane lines and shall not be placed such that they lie within the traveled way of vehicular tires. When approved by the Engineer, longitudinal joints may be placed at the center of traveled lanes when existing conditions prohibit full lane width passes by the paving machine. When placing multiple layers of asphalt concrete, longitudinal joints shall be staggered not less than 12" apart such that a single vertical joint does not run the full depth of the pavement section.

302-5.7.2 Transverse Joints

Add the following subsection:

When terminating paving operations for the day, the Contractor shall construct temporary ramps at all vertical joints which are greater than 1-1/2 inches in height and transverse to through traffic. Temporary ramp dimensions and compaction shall be approved by the Engineer. Prior to resuming paving operations, the Contractor shall remove temporary ramps to provide for a vertical face and a full depth lift joint, and apply a tack coat to the faces of the joint in accordance with Section 302-5.4. Transverse joints shall not be placed within 250' of an intersection unless it is the final joint to match existing pavement for the final limits of work.

302-5.9 Measurement and Payment

Amend as follows:

Unit price bid for all asphalt paving operations shall include full compensation for furnishing all labor, materials, tools, equipment, sweeping, preparatory roadway surfacing work and all related and appurtenant work. Unit price bid shall also include all labor and materials to construct asphalt around manholes, valves, monuments and other surface improvements. Contractor shall obtain a one-year price guarantee from the asphalt concrete materials plant supplying material for all asphalt concrete work. One-year price guarantee period shall begin from the date of bid opening and terminate one-year thereafter.

Payment for "**Asphalt Concrete (R&R)**" shall be measured and paid for on a square foot basis and at the compacted thickness as indicated on the Bid Schedule and shall include full compensation for furnishing all labor, materials, tools, equipment, cold milling, trimming cuts, removal, disposal, preparation, tack coat, asphalt, compaction

and all related and all related incidentals required to complete the work in place to provide a full removal and replacement of the existing asphalt pavement.

Payment for “**Asphalt Concrete Pavement**” shall be measured and paid for on a square foot basis and at the compacted thickness and type as indicated on the Bid Schedule and the Drawings and shall include full compensation for furnishing all labor, materials, tools, equipment, cold milling, trimming cuts, removal, disposal, preparation, tack coat, asphalt, compaction and all related and all related incidentals required to complete the work in place.

302-7 PAVEMENT FABRIC

302-7.2 Placement

302-7.2.1 General

Add the following:

The surface on which the pavement fabric is to be placed shall be reasonably free of dirt, water, vegetation or other debris. The pavement fabric shall be placed on a drainable surface, and any rutting or low spots in the pavement shall be removed by milling or by the use of a leveling course as shown on the plans. Cracks exceeding 1/8 inch (3 mm) in width shall be filled with suitable crack filler. Potholes shall be properly repaired as directed by the City. Fillers shall be allowed to cure prior to placement of the pavement fabric.

Pavement fabric shall not be placed any further than 750' in advance of the paving machine unless otherwise approved by the Engineer.

302-7.2.3 Laydown

Delete the First Paragraph and Replace with the following:

Pavement fabric shall be applied with a self-driven mechanical vehicle. Pavement fabric shall not be placed more than 2-inches onto cold planned asphalt concrete unless otherwise approved by the Engineer. Public traffic is not permitted over pavement fabric unless otherwise approved by the Engineer.

302-7.3 Measurement

Delete the Paragraph and replace with the following:

Measurement for “**Pavement Fabric**” shall be the actual square footage of asphalt concrete pavement covered with the pavement fabric material. No additional measurement will be made for material used in overlapping of joints.

302-7.4 Payment

Delete the Paragraph and replace with the following:

Payment for “**Pavement Fabric**” shall be measured and paid for on a per square foot basis, and shall include full compensation for furnishing all labor, tools, equipment, tack coat and incidentals for doing all the work involved in placement of the pavement fabric. Payment shall be measured for actual square footage of asphalt covered with the

pavement fabric material. Payment shall also include any advance spreading of asphalt concrete over the fabric as requested by the City.

Neither the asphalt binder nor the pavement fabric shall be placed when weather conditions, in the judgment of the City, are not suitable. Air and pavement temperatures shall be sufficient to allow the tack coat to hold the pavement fabric in place. The air temperature shall be 50 F (10 C) and rising for placement of the asphalt tack coat.

The Pavement fabric shall be placed onto the tack coat with minimum folds or wrinkles and before the tack coat has cooled and lost tackiness. Areas of fabric that has been removed and replaced additional tack coat shall be applied as needed to achieve a sound bond to the substrate. Damaged Pavement fabric shall be removed and replaced, per the manufacturer's recommendations, at the Contractor's expense with the same type of material.

Equipment used to place the asphalt tack coat to install the pavement fabric or to roll the Pavement fabric into the tack coat shall be in accordance with the manufacturer's recommendations

Overlap of pavement fabric joints shall be sufficient to ensure full closure of the joint, but shall not exceed 6 inches (150 mm). Transverse joints shall be lapped in the direction of paving to prevent edge pickup by the paver.

Brooming, squeegee or pneumatic rolling shall be used to remove any air bubbles and to maximize Pavement fabric contact with the pavement surface and shall be done in accordance with the manufacturer's specifications and to the satisfaction of the City. Excess tack coat that bleeds through the pavement fabric shall be removed by broadcasting asphalt on the pavement fabric interlayer. Broadcasting of asphalt may also be used to facilitate movement of equipment during construction, to prevent tearing or delaminating of the pavement fabric or to prevent pickup by the paving machine or other equipment. No other material, such as asphalt release agents or diesel, shall be used for this purpose.

No traffic, except necessary construction traffic or emergency vehicles, shall be driven on the pavement fabric unless approved by the Engineer.

Placement of the asphalt overlay shall closely follow placement of the pavement fabric. All areas in which the pavement fabric has been placed shall be paved during the same day, unless approved otherwise by the Engineer. In the event of rainfall on the pavement fabric prior to the placement of the overlay, the pavement fabric shall be allowed to dry before the asphalt is placed.

A manufacturer's representative shall be present, at a minimum, for the first two days of installation of the pavement fabric and available thereafter upon request by the City.

Once the pavement fabric has been placed, the Contractor shall place Road Closed signs at each entry point to the street along with 6 cones. Traffic shall not be permitted on the pavement fabric.

302-12 TIRE RUBBER MODIFIED ASPHALT CONCRETE (TRMAC)

302-12.1 General

Add the following:

The Contractor shall prepare a paving operation plan in accordance to Section 302-5.1.

302-12.3 Distribution and Spreading

Add the following:

When atmospheric temperatures are below 70 degrees F, all truck loads shall be covered with tarpaulins. Loads shall be covered when loaded at the plant and until the TRMAC is transferred directly into the paver's hopper.

TRMAC shall be placed and compacted only if the atmospheric temperature is at least 55 degrees F and the roadway surface temperature is at least 60 degrees F.

All compaction shall be completed before the TRMAC surface temperature reaches 200 degrees F.

302-12.7 Rock Dust Blotter

Add the following:

Rock dust blotter shall be required to avoid tracking. Rock dust blotter shall be removed by mechanical sweeping within 48 hours of placement of final paving on all residential streets and within 24 hours on all collector/major roads unless otherwise approved. Rock dust blotter shall not be placed within 250 feet of any signalized intersection or within 250 feet of roadway intersections with stop signs when the posted speed limit is 30mph or greater unless otherwise approved. During the placement of rock dust blotter, storm drain inlets shall be protected to prevent material from entering the storm drain system. Once rock dust blotter has been broadcast, "Loose Gravel" signs shall be placed in advance of the areas that have rock dust blotter on the roadway.

302-12.8 Measurement

Delete and replace with the following:

TRMAC shall be measured by the square foot.

302-12.9 Payment

Is amended as follows:

Payment for "**TRMAC Rubberized Asphalt Concrete Pavement**" shall be measured and paid for per square foot at the compacted thickness as noted in the Bid Schedule. Unit price bid shall include full compensation for furnishing all labor, materials, tools, equipment, and incidental necessary including all preparatory roadway surfacing work, tack coat, asphalt, compaction, rock dust blotter, sweeping, and all related and all related incidentals required to complete the work in place.

SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION

Is amended as follows:

303-1 CONCRETE STRUCTURES

303-1.1 General

Add the following:

Concrete inlets to be installed on curves shall contain a radius curb face matching the curb radius. Steel inlet face angle shall be shop bend to match the radius shown on the drawings. Contractor shall submit steel inlet face angle curve radius for approval prior to order and installation. For Type C curb inlets, the curb face shall be curved over the top of the grate opening. Inlets requiring a radius curb face that have been constructed without radius curb face, shall be removed and replaced at the Contractor's expense.

Storm drain inlets and catch basins shall include a brass storm drain inlet marker per Section 206-7.

Water proofing membrane shall be provided for all concrete and masonry retaining walls 12-inches in height or higher pursuant to Section 202-3.4.

Pre-cast concrete drain boxes shall have square grates and frames designed to withstand H-20 loading. Boxes shall have wall knockouts on four sides and shall have a bottom slab. Boxes which do not contain a bottom slab shall have 6 inches of concrete placed inside. Contractor shall install pre-cast concrete drain box over a 6 inch depth of $\frac{3}{4}$ " crushed rock and shall grout the bottom and sides of the box between the box and the drain pipe into and/or out of the box as necessary to install the drain pipes to the elevations specified on the Plans and to provide positive flow.

303-1.11 Payment

Add the following:

Payment for "**8" Pour-In-Place Wall**" shall be measured and paid for on a linear foot basis and shall include all labor, materials, equipment and tools necessary to construct the concrete walls include excavation, grading, compaction, reinforcing steel, disposal of excess material, forming, connections to drain sleeves, and all related incidentals required to complete the work as shown in the drawings.

Payment for "**Catch Basin**" shall be measured and paid for on an each basis at the size and type shown on the Plans and in the Bid Schedule and shall include all labor, materials, equipment, tools, removal & disposal of materials necessary to construct the catch basin as shown on the plans. Payment shall also include excavation, fill, grading, compaction, disposal of excess material, forming, connections to the storm drain, storm drain marker and all related incidentals required to complete the work in place.

Payment for "**Storm Drain Cleanout**" shall be measured and paid for on an each basis and shall include all labor, materials, equipment and tools necessary to construct the storm drain cleanout as shown on the plans. Payment shall also include excavation, fill, grading, compaction, disposal of excess material, forming, connections to the storm drain and all related incidentals required to complete the work in place.

Payment for **“Headwall (Straight, U or Wing Type)”** shall be measured and paid for on an each basis and shall include all labor, materials, equipment and tools necessary to construct the headwall as shown on the plans and in the Bid Schedule. Payment shall also include excavation, fill, grading, compaction, disposal of excess material, forming, connections to the storm drain, sleeving for fences, and all related incidentals required to complete the work in place.

Payment for **“Pre-Cast Concrete Drain Box”** shall be measured and paid for on an each basis at the size specified in the Plans and on the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools, and incidentals necessary including but not limited to; removal and disposal of materials necessary to install the pre-cast concrete drain box, the connections to the drain pipes including concrete grouting between drain pipe and box, 6 inches of $\frac{3}{4}$ ” crushed rock underneath drain box, filter fabric, and all related items necessary to complete the work in place.

303-1.12 Storm Water Treatment Device

Add the following Subsection:

303-1.12.1 General

Storm Water Treatment Device (SWTD) shall be a hydrodynamic separator unit as manufactured by Bioclean Debris Separating Baffle Box (DSBB) Model No. DSBB-11-34 or approved equivalent. The SWTD shall of an in-line type designed to treat a minimum flow rate of 50 cubic feet per second (cfs), and must function with inflow and outflow elevations as shown on the drainage Plans; otherwise, Contractor must submit re-design of storm drain plan and profile, maintaining a minimum of 0.50% slope on all RCP storm drain conduits in the downstream direction. Pipes must be flush with inside surface of concrete. All gaps around pipes shall be sealed water tight with a non-shrink grout per the manufacturer’s connection detail and shall meet or exceed regional pipe connection standards. Pre-Engineered SWTD shall be placed over at least 6 inches of gravel base unless otherwise specified. Contractor shall install all risers, manholes and hatches with grout to match the finished surface unless otherwise specified. Access manholes and hatches shall be a minimum of 36” diameter or 48” x 96”, respectively, and shall withstand H2O direct surface loading.

303-1.12.2 Components

The SWTD and all of its components shall be self-contained within a concrete structure constructed with a minimum 28-day compressive strength of 5,000 psi, with reinforcing steel per ASTM A 615. The SWTD shall be composed of not less than three (3) sediment chambers with a total of 1,630 cubic feet of sediment storage capacity or more, a screening system designed to capture and store solid debris, and oil skimmer to remove free floating hydrocarbons.

303-1.12.2.1 Screening System

Screen frame shall be constructed of 100% stainless steel. All joints and seams shall be welded or fastened together with stainless steel hardware. All sides of screen frame shall be fixed. The top section of the screen frame shall have one of the following: open

top, hinged top section, or track guided sliding top section per the manufacturer's drawings. The bottom section of the basket frame shall be a minimum of 3" above static.

Screens shall be manufactured of 100% louver expanded stainless steel, grade 304. The screen shall be capable of capturing and retaining 200% of pollutants greater than or equal to 4.7 mm regardless of specific gravity for flows up to the device's rated treatment capacity. Screens shall have openings that face opposite the flow of passing storm water to provide continuous shielding and prevent clogging.

303-1.12.2.2 Oil Skimmer

Oil skimmer shall be mounted to the skimmer wall and located between the end of the screening system and the outlet pipe. Skimmer wall shall be constructed of concrete with a minimum 28-day compressive strength of 5,000 psi, with reinforcing per ASTM A 615, Grade 60.

Oil skimmer cage shall be constructed of stainless steel frame with flattened expanded stainless steel. Housing shall have a hinged top section. Oil skimmer cage shall be secured to the skimmer wall with aluminum or stainless steel hardware.

Media filtration boom shall be made up of granulated oil absorbing polymers that have been tested in accordance with section 11.2 of ASTM F 716.07 and held within a netting. Oil absorbing polymers must absorb 180% of its weight within a 300 second contact time, and the physical size of the granules must not increase more than 50% at this absorption rate. Filter netting shall be 100% polyester with a number 16 sieve size, and strength tested per ASTM D 3787.

303-1.12.2.3 Sediment Chambers

Baffle walls shall be constructed of 5,000 psi strength concrete with reinforcing per ASTM A 615, Grade 60.

Turbulence deflectors shall be manufactured of 100% marine grade polyester resin and fiberglass strands or stainless steel and be mounted to the concrete baffles with stainless steel hardware. The turbulence deflectors should be sized to effectively eliminate scouring and re-suspension of previously captured sediments in the sediment removal chambers and creates a flow pattern that encourages suspended solids in influent flows to settle out and accumulate at the bottom of the SWTD.

All fiberglass deflectors must be coated with a polyester gel coating with ultra violet inhibitors incorporated into the coating for maximum ultra violet protection. Fiberglass must have a minimum thickness of 3/16".

303-1.12.3 Performance

303-1.12.3.1 Removal Efficiencies

SWTD shall capture and retain 100% of all trash and debris equal to or greater than 4.7 mm, and 80% of total suspended solids (TSS) at 150 micron. The SWTD shall not release material during flow events greater than the design flow rate.

303-1.12.3.2 Hydraulic Capacity

SWTD shall provide a rated hydraulic capacity, which is consistent with governing water treatment regulations. The hydraulic capacity must be supported by independent third party.

303-1.12.3.3 Storage Capacity

SWTD must have multiple sediment removal chambers for storage of sediments and other non-floatable pollutants. The volume of each sediment removal chamber shall be called out on the submittal drawings. The SWTD must have an oil skimmer to capture hydrocarbons. The skimmer shall be equipped with storm booms capable of capturing up to 180% of its weight in oils and grease along with other emulsified and free-floating hydrocarbons.

303-1.12.3.4 Pollution Separation

SWTD must be equipped with a screening system capable of capturing and storing solid debris such as foliage and litter in a dry state above the static water line. The debris captured by the screening system must be stored a minimum of 3.5" above the static water line. The screening system must be located directly under the system access hatch(es) to allow easy maintenance and removal of captured debris.

303-1.12.4 Submittals

Submittal drawings shall detail the SWTD and all components required and the sequence for installation, including:

- System configuration with primary dimensions
- Interior components
- Inflow and outflow pipe elevations
- Inspection and maintenance documentation

303-1.12.5 Payment

Measurement and payment for “**Storm Water Treatment Device**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary to install the SWTD as shown on the Plans and to these Specifications, including but not limited to; pre-engineered storm water treatment device, delivery and storage of SWTD, excavation, compaction, gravel base, backfill, layout, submittals, forming, finishing, reinforcing steel, risers and rings, access manhole lids and hatches, filter screens, deflector shield, oil skimmer, grout, and all related items necessary to complete the work in place per the manufacturer’s recommendations and the details in the Plans.

303-4 MASONRY CONSTRUCTION

303-4.1 Concrete Block Masonry

303-4.1.5 Measurement and Payment

Delete and replace with the following:

Payment for “**Masonry Retaining Wall**” and shall be measured and paid for per square foot of wall face. Unit price bid shall include all labor, materials, equipment, tools, and incidentals necessary including but not limited to: excavation, forming, layout, reinforcing steel, concrete, concrete masonry blocks, grouting, waterproofing, sleeves for handrails/fencing, backfill, compaction and all related incidentals necessary to complete the work in place.

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS AND DRIVEWAYS

303-5.1 Requirements

303-5.1.1 General

Add the following:

All concrete curbs, curb & gutter, pedestrian ramps, inlets, and concrete cross gutter work shall include saw cutting and removal of the existing asphalt pavement 18-inches wide. Asphalt concrete shall be replaced to match the existing asphalt concrete thickness and shall be not less than 4-inches thick. Asphalt within the 18-inch shall be placed in 2-inch lifts and compacted with a compaction rammer “Wacker” until the final surface course is placed which shall be compacted with an asphalt roller. Asphalt concrete shall be Type B for work in which a final asphalt concrete treatment will be placed (i.e. slurry seals, cape seals, asphalt concrete overlays, etc.). Type C2 asphalt concrete mix shall be used when no final surface treatment will be placed. The Contractor shall protect, repair or replace existing sidewalk underdrains as required during concrete sidewalk and/or curb and gutter replacement at his expense, if damaged.

All concrete items of work to be replaced shall have the asphalt sawcut 18” from the edge of concrete. Asphalt paving within this area shall be 4” thick on residential streets and 6” on non-residential streets.

The Contractor shall not imprint or stamp their company name on any concrete work. Any sections of concrete that have been imprinted or stamped by the Contractor are subject to removal and replacement. Any costs associated with this shall be the responsibility of the Contractor.

a) Curbs and Gutters

Concrete for curbs and gutter shall be 560-C-3250.

All curbs & gutters to be replaced which contain a water or sewer stamped marking shall be replaced in accordance to the Water Agency Standards “WAS”

latest edition. The cost for stamped markings shall be included in the unit price bid for **“Concrete Curb & Gutter”**.

Curb & gutter within 40-feet of a bus stop shall contain (2) #4 reinforcing bars within the gutter spaced 6-inches apart.

The Contractor shall repair or replace existing landscaping, irrigation, brick pavers or other private improvements adjacent to sections of replaced concrete.

b) Cross Gutters

Concrete for cross gutters shall be 560-C-3250.

Where existing concrete cross gutters are to be replaced, new cross gutters shall contain No. 4 reinforcing steel bars placed at 16" on center both ways and shall be doweled & epoxy bonded 6" deep into adjacent cross gutters.

c) Sidewalks and Concrete Pathways

All concrete sidewalks and pathways shall receive reinforcing steel, No. 3 placed at 16" on center both way.

Sidewalks which meet or adjoin concrete structures, shall contain #4 reinforcing steel placed 12" O.C. and epoxy doweled into the structure 3" deep. Reinforcing steel shall extend 4-feet from the structure wall into the concrete sidewalk.

d) Pedestrian Ramps

Concrete for pedestrian ramps shall be 560-C-3250. Pedestrian Ramps shall be constructed with Truncated Domes per Section 215-1.1 unless otherwise shown on the Drawings. Curbs at pedestrian ramps shall be poured separately from the pedestrian ramp sidewalks unless otherwise approved.

Monolithic curbs at the back of landing shall be provided at all locations where the existing grade behind the back of ramp is higher than the surrounding concrete or when required by the City. The ends of the curb shall transition at a 2:1 slope to the existing sidewalk elevation.

Where pedestrian ramps are shown or specified to be placed at locations which contain colored concrete, the pedestrian ramp shall be poured with colored concrete to match existing concrete pavement.

Contractor shall obtain the original design radius for all pedestrian ramps located at corner from the Engineer to ensure the face of curb is reconstructed to the correct radius.

Pedestrian ramps shall include the entire G-2 curb & gutter adjacent to the ramp from PCR to PCR (entire curve length). Pedestrian ramps shall be per the SDRSD No. G-27 – Type A, unless otherwise noted or approved by the City.

The center landing of all pedestrian ramps shall be marked in the field by the City Traffic Engineer or their designee prior to placement of the pedestrian ramp. Contractor shall coordinate with the City inspector or traffic engineer at least 48 hours in advance of concrete placement.

All pedestrian ramps shall receive 6x6 inch, 10 gauge, welded wire fabric reinforcement.

Accessible Play Area Ramps shall be poured separately from adjacent mow curbs and concrete surfaces. Where accessible play area ramps are shown to be placed adjacent to colored concrete paving, the accessible play area ramps shall be poured with colored concrete to match adjacent concrete pavement. All costs associated with the requirements of this specification shall be included in the applicable bid items.

e) Driveways

Concrete for driveways shall be 560-C-3250. Driveways which are to be removed and replaced in commercial areas shall be 7-1/2" thick. Where existing concrete driveways are to be replaced, new driveways shall contain No. 4 reinforcing steel bars placed at 16" on center both ways and shall be doweled & epoxy bonded 6" deep into adjacent driveways.

f) Concrete Wheel Stops

Concrete wheel stops shall be 6-foot long, precast, 4,000 psi concrete placed in the center of parking stall. Each stop shall be reinforced with two #3 reinforcing bars, minimum. Corners shall be chamfered as shown in the Drawings. Wheel stops shall be securely attached into at-grade concrete and at-grade asphalt pavement with not less than two galvanized steel dowels embedded into holes cast into the wheel stops. Holes shall be sealed to full depth with mortar.

All costs associated with the above requirements shall be included in applicable bid items. All final hot mix asphalt concrete necessary to be replaced due to concrete replacement shall be replaced within 5 days of placement of concrete. Temporary cold mix shall asphalt concrete shall be used during the 5 day period.

303-5.2 Forms

303-5.2.1 Standard Forms

Concrete work performed without the use of forms shall be rejected. "Neat Pouring" or placement of concrete against an existing surface such as asphalt concrete is not permitted. Forms for curved concrete shall be not less than 3/4 inches thick unless otherwise approved by the Engineer.

303-5.4 Joints

303-5.4.1 General

Add the following:

Joints between adjoining concrete surfaces or structures shall align together such as curb joints and adjacent concrete sidewalks concrete structures and adjoining concrete pavement, etc.

303-5.4.2 Expansion Joints

Add the following:

Expansion Joints shall be placed not more than 32-feet along concrete walkways, mow curbs, other types of concrete structures. Expansion Joints shall be placed between concrete walkway and concrete pads for building, shade shelters, pergolas and basketball courts. Expansion joints shall contain dowel sleeves per Section 201-2.

303-5.4.3 Weakened Plane Joints

Delete subsection (c) "Plastic Control Joint" and add the following:

Weakened plane joints shall be spaced at equal distances whenever possible between expansion joints and spaced every 10 feet along mow curbs. Jointing locations shall be approved by the City prior to placement.

303-5.6 Curing

Add the following:

During the curing process, steel plates shall be used to provide access across cross gutters and driveways for a period of 7 days and shall be included in the applicable bid items.

All asphalt areas that are removed to permit construction of concrete related items of work shall be backfilled with cold mix the day after forms have been removed. Within 7 days of cold mix been placed, the cold mix shall be removed and final asphalt placed according to Section 303-5.1.1.

303-5.8 Backfilling and Cleanup

Add the following:

All backfill behind completed concrete items of work shall be completed within 5 days of placement of concrete.

303-5.9 Measurement and Payment

Add the following:

Payment for "**Concrete Curb & Gutter**" shall be measured and paid for on a linear foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of existing materials, forming, compaction, adjacent asphalt paving and all related incidentals required to complete the work in place.

Payment for “**Concrete Curb**” shall be measured and paid for on a linear foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of existing materials, forming, compaction, adjacent asphalt paving and all related incidentals required to complete the work in place.

Payment for “**Concrete Gutter**” shall be measured and paid for on a linear foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of existing materials, forming, compaction, adjacent asphalt paving and all related incidentals required to complete the work in place.

Payment for “**Concrete Mow Curb**” shall be measured and paid for on a linear foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; removal & disposal of existing materials, forming, compaction, reinforcing steel, joints and all related incidentals required to complete the work in place.

Payment for “**Concrete Cross Gutter**” shall be measured and paid for on a square foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of materials, dowels, forming, compaction, reinforcing steel, adjacent asphalt paving and all related incidentals required to complete the work in place as shown.

Payment for “**Concrete Sidewalk**” shall be measured and paid for on a square foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of existing materials, forming, reinforcing steel, compaction, joints, and all related incidentals required to complete the work in place. Payment shall also include the repair or replacement of landscaping, irrigation, brick pavers or other private improvements adjacent to areas of work.

Payment for “**Concrete Pathway**” or “**Concrete**” shall be measured and paid for on a square foot basis at the thickness specified and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of existing materials, forming, reinforcing steel, compaction, joints, and all related incidentals required to complete the work in place. Payment shall also include the repair or replacement of landscaping, irrigation, brick pavers or other private improvements adjacent to areas of work.

Payment for “**Concrete Basketball Court**” shall be measured and paid for on a square foot basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; excavation, forming, concrete, reinforcing steel, sawcutting, compaction, surfacing paint and sealer, and all related items necessary to complete the work in place per the manufacturer's recommendations and the details in the Drawings.

Payment for “**Concrete Curb Ramp**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools, equipment,

including but not limited to; saw cutting, removal & disposal of materials from PCR to PCR, forming, compaction, welded wire fabric, adjacent asphalt paving, truncated domes, curbs and all related incidentals required to complete the work in place. Payment shall also include the adjustment of existing boxes, repair or replacement of landscaping, irrigation, brick pavers or other private improvements adjacent to the work.

Payment for “**Accessible Play Area Ramp**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of materials, forming, compaction, reinforcing steel, and all related incidentals required to complete the work in place.

Payment for “**Concrete Driveway**” shall be measured and paid for on a square foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of materials, dowels, forming, compaction, adjacent asphalt paving and all related incidentals required to complete the work in place. The unit price shall also include the depressed curb and gutter as shown in the SDRSD's.

Payment for “**Concrete Brow Ditch**” shall be measured and paid for on a linear foot basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of materials, dowels, backfill, forming, compaction and all related incidentals required to complete the work in place as shown on the SDRSD.

Payment for “**Concrete Wheel Stop**” shall be measured and paid for on an each basis per concrete wheel stop and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; precast concrete wheel stop, drilling, steel dowels, surface preparation, mortar, epoxy, and all related incidentals required to complete the work in place.

303-6 STAMPED CONCRETE

303-6.1 General Add the following:

When specified, colored and stamped concrete shall also conform to Section 303-7 using Method B.

303-7 COLORED CONCRETE

303-7.1 General Add the following:

Colored concrete shall be produced by Method B.

303-7.2 Method A (Dry Shake) Delete this section and replace with the following:

Method A (Dry Shake) is not permitted.

303-7.5 Test Panel

Add the following subsection:

The test section shall be a minimum of 25 square feet. Contractor shall be responsible to remove and dispose of the test section.

Test panel for approval by the Engineer not less than 5 days prior to the scheduled placement of colored concrete. Test panel will be reviewed to verify the concrete color to match surrounding colored concrete. Contractor shall remove and dispose of test panel once reviewed by the Engineer.

303-7.6 Measurement and Payment

Add the following subsection:

Payment for “**Colored Concrete**” shall be measured and paid for on a square foot basis at the thickness specified and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; removal & disposal of existing materials, saw cutting, compaction, forming, reinforcing steel, rebar dowels, joints, test panels, colored concrete, and all related incidentals required to complete the work in place.

Payment for “**Colored Stamped Concrete**” shall be measured and paid for on a square foot basis at the thickness specified and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; removal & disposal of existing materials, saw cutting, compaction, forming, reinforcing steel, rebar dowels, stamping forms, test panels, colored concrete, stamp application, and all related incidentals required to complete the work in place.

303-9 EXPOSED AGGREGATE CONCRETE

Add the following subsection:

303-9.1 General

Exposed aggregate concrete shall be 4” thick placed in full depth pours with integral color as shown on the drawings or specified herein.

303-9.2 Concrete Material

Exposed aggregate concrete shall be 3/8” aggregate, 3,250 psi with integral color and manufactured at a central mix plant. Color shall be Davis Colors: “San Diego Buff” or approved equal. Contractor shall submit sample of rock aggregate from central mix plant for approval prior to placement of test panels.

303-9.3 Test Panel

The test section shall be a minimum of 25 square feet. Contractor shall be responsible to remove and dispose of the test section.

Test panel for approval by the Engineer not less than 5 days prior to the scheduled placement of exposed aggregate concrete. Test panel will be reviewed to verify the

concrete color, the exposed aggregate rock surface color, and exposed finish. Contractor shall remove and dispose of test panel once reviewed by the Engineer.

303-9.4 Reinforcement

Exposed aggregated concrete shall contain No. 3 reinforcing steel reinforcement placed at 16" on center both ways.

Where exposed aggregated concrete is to be placed adjacent to colored concrete, or as part of a meandering concrete sidewalk, #4 reinforcement dowels, 2' long, embedded not less than 6", shall be placed every 18" O.C. along the longitudinal length of exposed aggregate concrete.

303-9.5 Placement

Contractor shall place a spray applied, film forming top surface retarder over concrete surface after initial screeding has been completed, all surface bleed water has evaporated, leaving a firm, yet uncured concrete surface. Contractor shall select an appropriate concrete retarding agent appropriate for the size of exposed aggregate and finish specified for this work. Surface course shall be washed free of fine particles such that a maximum of 1/3 of the rock aggregate diameter is exposed. Use of power washers/pressure washers is not permitted unless otherwise approved by the Engineer.

303-9.6 Joints

Weakened-plane joints shall be placed as shown on the plans to a depth to not less than 1/4" of the concrete thickness or a minimum of 1-1/2 inches. Expansion joints shall be placed in equal lengths not exceeding 32' to match spacing of weakened plane joints. Joints shall be placed whenever possible to match curb joints or existing joints as approved by the Engineer. Contractor shall obtain approval of joint layout prior to the placement of the pervious concrete.

303-9.7 Measurement and Payment

Payment for "**Exposed Aggregate Colored Concrete**" shall be measured and paid for on a square foot basis at the thickness specified and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; test panels, integral color earthwork, compaction, form working, reinforcing steel, joints, finishing, and all related incidentals required to complete the work in place.

303-10 DECORATIVE CONCRETE ENGRAVING

Add the following subsection:

303-10.1 General

Decorative concrete engraving shall be placed to the locations, letter size, font as shown on the drawings. Concrete shall be engraved to a depth of 1/8" deep unless otherwise shown.

Concrete engraving subcontractor and concrete contractor shall coordinate all work requiring engraving including any necessary concrete colors, finishing, and seeding work. Any concrete which is damaged as a result of the work shall be grounds for removal and replacement. Damages shall be defined as any chipping along engraved letter borders, cracking of concrete, or scratching and scoring deeper than 1/32" thick.

303-9.3 Test Panel

Contractor shall prepare a test panel containing at least 4 letters for review and approval by City prior to engraving of site concrete. Test panel shall be constructed with the color and finish specified for the decorative concrete engraving.

303-10.2 Payment

Payment for "**Decorative Concrete Engraving**" shall be included in the lump sum bid price for and shall include all labor, materials, equipment, tools and incidental necessary to complete the work including test panels, and any required templates and disposal of concrete material removed during the engraving process.

SECTION 304 - METAL FABRICATION AND CONSTRUCTION

Is amended as follows:

304-3 CHAIN LINK FENCE

304-3.2 Fence Construction

Add the following:

Chain link fencing shall be constructed in accordance with regional standard drawings M-6 and to the height shown on the plans or bid schedule. Fence shall contain top and bottom rails.

304-3.3 Installation of Gates

Add the following:

Gates shall be 42" in height and the width as shown in the Drawings and shall be constructed in accordance with SDRSD M-5.

Chain link gate shall contain locking butterfly type latch hardware and locking post and shall be vinyl coated black

304-3.4 Measurement and Payment

Delete and replace with the following:

Payment for "**Chain Link Fence**" shall be measured and paid for on a per linear foot basis shall be measured parallel to the ground along the line of the completed fence. Payment shall include all labor, material, equipment, tools and incidentals necessary including but not limited to; clearing the line and grade for the fence, disposal of material, excavation, removal of existing chain link fence and concrete footings, vinyl coating, connections to existing fences and/or structures and all related incidentals required to complete the work in place.

Payment for "**Chain Link Gate**" shall be measured and paid for on an each basis. Payment shall include all labor, material, equipment, tools and incidentals necessary including but not limited to; clearing the line and grade for the gate, disposal of material, excavation, vinyl coating, connections to existing fences and/or bridge barrier walls and all related incidentals necessary to complete the work in place.

304-5 STEEL PIPE AND TUBE CONSTRUCTION

Add the following subsection:

304-5.1 General

Structural steel, rivets, bolts, pins, and anchor bolts shall conform to Section 206 with the following modifications. Steel bolts shall conform to ASTM A307. Steel pipe shall conform to ASTM A36. Steel tubing shall conform to ASTM A501. All steel pipe, tubing and hardware shall be galvanized unless otherwise shown.

304-5.2 Removable Steel Bollard

Steel bollards shall be the size and dimensions as shown on the plans. Bollards and sleeves shall be fabricated from Schedule 40 galvanized steel pipe. Bollards shall contain a ¼" thick steel plate welded to the top. Bollards shall contain (2) 3" tall yellow reflective tape bands.

304-5.3 Permanent Steel Bollard

Steel bollards shall be the size and dimensions as shown on the plans. Bollards and sleeves shall be fabricated from Schedule 40 galvanized steel pipe. Bollards shall contain a ¼" thick steel plate welded to the top. Bollards shall contain (2) 3" tall yellow reflective tape bands. Permanent bollards shall be filled with concrete and the top shall be rounded and smooth. Concrete footing shall be 18" diameter and 18" in depth.

304-5.4 Pipe Gate

Pipe gate shall be constructed to the size and dimensions shown on the plans. All welded steel sections shall be ground smooth with no protrusions. Pipe gates shall contain (2) zerk fittings at the top and bottom of each pipe gate post. Zerk fittings shall be threaded type not less than ½" diameter and contain a protective steel pipe sleeve around the zerk fitting for protection. Pipe sleeve shall provide at least ¼" space between inner pipe wall and zerk fitting. Pipe gate shall be greased with a synthetic grease containing a high resistance to corrosion, rust and water washout.

Pipe gate post shall contain a steel pipe collar not less than ½" thick to allow swing gate to rest securely without rocking. Pipe gates shall contain a pipe gate catch post for the open position

Pipe gates shall contain not less than (2) Type 4, N-2(CA) "Object Marker" signs, sized 18" x 18". Sign shall be mounted to pipe gates with banded brackets with stainless steel strapping and vandal resistant hardware.

304-5.5 Measurement and Payment

Payment for "**Removable Bollard**" shall be measured and paid for on a per each basis and shall include all labor, materials, equipment, tools, and incidentals necessary to perform the work including but not limited to; preparation of shop drawings, excavation, concrete footings, steel fabrication, steel sleeves, reflective markers, locking hasps, concrete, painting and all related incidentals required to complete the work in place and in accordance with SDRSD M-16.

Payment for "**Pipe Gate**" shall be measured and paid for on a per each basis and shall include all labor, materials, equipment, tools, and incidentals necessary to perform the work including but not limited to; preparation of shop drawings, excavation, concrete footings, steel fabrication, steel sleeve, zerk fittings, grease, reflective markers, signs, locking plates and all related incidentals required to complete the work in place.

304-6 PEDESTRIAN PROTECTIVE RAILING

Add the following subsection:

301-6.1 General

Pedestrian protective railing shall be manufactured in accordance to Section 206-10, "Weathering Steel Railings and Structures" and to the size, shape and dimensions shown on the drawings. Contractor shall submit shop drawings to the City for review prior to fabrication of railings. Upon completion of the railing fabrication, the railing shall be pre-weathered such that the railing has a rich deep colored patina. Any pre-weathering coating or accelerant used shall be submitted to the City for approval prior to application.

304-6.2 Measurement and Payment

Payment for "**Pedestrian Protective Railing**" shall be measured and paid for on a linear foot basis and shall include all labor, materials, equipment, tools, and incidentals necessary to perform the work including but not limited to; preparation of shop drawings, steel fabrication, field welding, pre-weathering, shipping and all related incidentals required to complete the work in place.

SECTION 305 - PILE DRIVING AND TIMBER CONSTRUCTION

305-2 TIMBER STRUCTURES AND TIMBER CONSTRUCTION

305-2.1 General

Add the following:

The Contractor shall rotate all lodge pole rails 180 degrees 14 days after installation to prevent sagging from high moisture content in lodge pole rails. The Contractor shall field walk all installed rails 90 days after installation and rotate any remaining sagging rails 180 degrees to further prevent long term settlement.

305-2.6 Measurement and Payment

Add the following:

Payment for “**Lodge Pole Fencing**” shall be measured and paid for on a per linear foot basis and shall include all labor, materials, equipment, tools, and incidentals necessary to perform the work including but not limited to; excavation, concrete footings, lodge pole posts, lodge pole rails, and necessary rail/post field doweling, adjustment/rotation of rails and all related incidentals required to complete the work in place.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-7 PREFABRICATED GRAVITY PIPE

306-7.7 Plastic Sewer and Drainage Pipe

306-7.7.1 General

Add the following:

Sewer pipe shall be installed with a tracer wire in accordance to Section 209-7 and terminate into sewer cleanout boxes.

306-8 PREFABRICATED PRESSURE PIPE

306-8.1 General

Add the following:

PVC waterline and recycled waterline installation shall be in accordance to the Water Agencies' Standard Drawings WP-02 and WP-01. Padre Dam Municipal Water District (District) to connect to existing potable water main and recycled water main in Carlton Hills Blvd and install new tee, gate valve, and water meters at the locations shown on the Plans. Contractor to tie into District installed water meters and install or relocate backflow prevention devices per WF-05/WR-01 and new PVC (for new fire service) or copper (for modified potable service) mainline as shown on the drawings.

Copper waterline installation shall be in accordance to the Water Agencies' Standard Drawings WP-01 and WP-02. Contractor to connect to District installed meter and install the potable water system as shown on the plans.

Recycled water irrigation, including but not limited to; pipes, valves, and backflow prevention device shall be constructed as shown on the Plans and as specified in Part 8 of these Specifications.

303-8.8 Valves, Hydrants, and Appurtenances

303-8.8.1 General

Add the following:

Gate valves shall be installed in accordance to Water Agencies' Standard Drawing WV-01.

Fire Hydrant Assembly shall be installed in accordance to Water Agencies' Standard Drawings WF-01, WF-02, and WF-04. Hydrant to contain (2) 2.5" and (1) 4" outlet port.

Fire Service backflow prevention device shall be installed in accordance to WF-05 and include a stainless steel security enclosure. Enclosure shall be hinging, locking, and include stainless steel hardware. All backflow piping and hardware shall be primed and painted with (2) coats of commercial grade exterior epoxy paint. Backflow prevention device shall be tested by a Certified Backflow prevention tester with test results provided to the Padre Dam Municipal Water District.

Relocated potable backflow prevention device shall be installed in accordance to WR-01 and include a security enclosure. The enclosure shall be hinging, locking, and stainless steel with stainless steel hardware. If the existing backflow prevention device does not have an enclosure that meets this specification, the Contractor shall install one. Relocated backflow prevention device shall be installed on new concrete pad at the location shown in the plans, and the existing concrete pad shall be removed. All backflow hardware shall be primed and painted with (2) coats of commercial grade exterior rated blue epoxy paint. Backflow prevention device shall be tested by a Certified Backflow prevention tester with test results provided to the Padre Dam Municipal Water District.

303-8.8.3 Thrust Blocks

Add the following:

Concrete thrust and anchor blocks shall be installed at each pipe bend to the size shown on the Plans and in accordance with the Water Agencies' Standards Drawing WT-01 and Water Agencies' Standards Design Guidelines. Thrust blocks shall be centered on the fitting in such a way that the bearing area is exactly opposite the resultant direction of thrust. Thrust and anchor blocks shall be poured against wetted, undisturbed soil.

306-12 BACKFILL

306-12.4 Jetted Trench Backfill

Delete this subsection and replace with the following:

Jetted trench backfill will not be permitted.

306-15 PAYMENT

306-15.10 Basis of Payment for Open Trench Installations

Add the following subsection:

Payment for "**RCP**" shall be measured and paid for on a linear foot basis and size noted in the bid schedule. Payment shall include all labor, material, equipment, tools and incidentals necessary including but not limited to; saw cutting, excavation, removal and disposal of all material including existing storm drain pipe, bedding material per SDRSD D-60, backfill, compaction and mortar for all pipe joints, connection to curb inlets, supporting of existing utilities using an I-beam and thick nylon straps or other accepted methods per the utility companies and the installation of the storm drain pipes. Minimum trench width shall be as specified in SDRSD D-60. All required shoring, permitting, and Engineering for excavations in excess of 5' shall be included in the unit price bid for applicable bid items. Unit price bid shall include all costs associated with bypassing storm drain flow, if required, during the work.

Payment for "**PVC Water Line**" shall be measured and paid for on an linear foot basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; excavation, pipe bedding, pipe zone granular backfill, connection to District installed gate valve, PVC pipe, pipe fittings, hardware placing and joining pipe, tracer wire, identification tape, backfilling, compaction, flushing,

testing, and all related and appurtenant work in compliance with Water Agency Standards complete and in place.

Payment for **“PVC Sewer Line”** shall be measured and paid for on an linear foot basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; excavation, pipe bedding, pipe zone granular backfill, connection to existing PVC sewer pipe, pipe fittings, hardware placing and joining pipe, tracer wire, identification tape, backfilling, compaction, flushing, testing, and all related and appurtenant work in compliance with Water Agency Standards complete and in place.

Payment for **“PVC Drain Pipe”** shall be measured and paid for on an linear foot basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; excavation, pipe bedding, pipe zone granular backfill, connection to existing PVC drain pipe, pipe fittings, sleeves, hardware placing and joining pipe, tracer wire, identification tape, backfilling, compaction, flushing, testing, and all related and appurtenant work in compliance with Water Agency Standards complete and in place.

Payment for **“Copper Water Line”** shall be measured and paid for on an linear foot basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; excavation, pipe bedding, pipe zone granular backfill, connection to District installed water meter, copper pipe, pipe fittings, hardware placing and joining pipe, tracer wire, identification tape, backfilling, compaction, flushing, testing, and all related and appurtenant work in compliance with Water Agencies’ Standards complete and in place.

Payment for **“Gate Valve”** shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; excavation, connection to PVC pipe, gate valve, fittings, gate valve can, hardware, backfilling, compaction, testing, and all related and appurtenant work in compliance with Water Agencies’ Standards complete and in place.

Payment for **“Fire Hydrant Assembly”** shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; excavation, pipe bedding, pipe zone granular backfill, PVC pipe, pipe fittings, hardware, placing and joining pipe, hydrant, gate valves, gate well, tracer wire, tracer wire port, thrust blocks, identification tape, hydrant painting, concrete pad, (4) protection bollards, backfilling, compaction, and all related and appurtenant work complete and in place.

Payment for **“Backflow Prevention Device”** and **“Relocate Backflow Prevention Device”** shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; backflow prevention device, enclosure, concrete pad, valves hardware, fittings, piping, identification tape, painting, backflow testing, and all related and appurtenant work complete and in place.

Payment for **“Thrust/Anchor Block”** shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools

and incidentals including but not limited to; concrete, excavation, removal and disposal of excess materials, layout and placement of concrete thrust/anchor block, and all related and appurtenant work complete and in place.

Payment for “**Sewer Cleanout**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; precast concrete boxes, traffic rated lids, sewer pipe, caps, and fittings, adjustment to finish grade and all related and appurtenant work complete and in place.

306-16 SUB-SURFACE DRAINS (FRENCH DRAIN)

Add the following section:

306-16.1 General

Subsurface drains shall be constructed by means of placement of a solid wall perforated pipe or PVC drain pipe with gravel backfill containing filter fabric around the entire pipe and gravel backfill. Subsurface pipe size shall be shown on the drawings and or as noted on the bid schedule. Subsurface trench width shall be not less than 3 times the diameter of the subsurface pipe unless otherwise shown on the drawings. Subsurface drains shall contain not less than 2 feet of gravel placed above the top of pipe unless otherwise shown.

Subsurface drain pipe shall be 2-hole perforated PVC pipe per Section 207-5.

Filter fabric shall conform to Section 213-5 “Filter Fabric” and placed in accordance to Section 300-8 “Geotextiles for Drainage”.

Gravel shall be ¾” crushed rock in accordance to Section 200-1.2 “Crushed Rock and Rock Dust” and shall be clean washed gravel free of any silts, fines or organic materials.

Subsurface drains shall be placed with a minimum slope of 1% or to the grades shown on the plans. Subsurface drain pipe shall be placed with holes facing downward to bottom of trench. Surface drains, catch basins and existing drain pipes shall not be connected to subsurface drains.

306-16.2 Measurement and Payment

Payment for “**PVC Perforated Drain Pipe**” shall be measured and paid for on a per linear foot basis at the size listed in the Plans and on the Bid Schedule. Payment shall include full compensation for all labor, materials, equipment tools, and incidentals including but not limited to; excavation, removal and disposal of excess material, filter fabric, primer, glue, subsurface drain pipe, fittings, gravel backfill, trench backfill, compaction and connection to existing drainage systems or pipe outlets and all related incidentals necessary to complete the work.

Payment for “**PVC Drain Pipe**” shall be measured and paid for on a linear foot basis at the size listed in the Plans and on the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; excavation, removal and disposal of excess material, filter fabric,

primer, glue, bedding material, fittings, backfill, compaction, Sch 40 PVC sleeve, and all related items necessary to complete the work in place per the details in the Plans.

Payment for “**Subdrain Cleanout**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; all PVC pipe, fittings, adapters, plugs, concrete ring, excavation, backfill, layout, forming, primer, glue, and all related items necessary to complete the work in place per the details in the Plans.

SECTION 314 - TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

314-1 GENERAL

Add the following:

Final striping shall be placed at the last 15 working days of the contract to reduce damages by construction activities.

314-2 REMOVAL OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS

314-2.1 General

Delete and add the following:

The Contractor shall remove existing traffic striping, pavement markings, pavement markers, and curb markings by wet or dry sandblasting or by metal bead blasting. Water blasting may be used if Contractor can demonstrate that the method does not damage the pavement, its operations can be completed in compliance with storm water regulations and is further approved by the Engineer. Water blasting is not permitted for use on gap-graded, open-graded or rubberized asphalt pavements. The Contractor may use a mechanical orbital grinder on thermoplastic or thick paint striping only when approved by the Engineer. Contractor shall take special care not to damage the pavement during the striping removal operations.

The Contractor shall be responsible to identify all locations and limits of striping prior to striping removal.

All adhesives for pavement markers shall be removed flush to the finish surface of the roadway surface.

Conflicting striping including pavement markings and pavement markers shall be removed before the application of temporary or permanent striping, markings, markers and/or curb markings.

Temporary pavement markers, "Temporary Tabs", shall be placed for all crosswalks, stop bars and lane lines.

314-2.2 Measurement

Delete and add the following:

Removal of traffic striping and pavement markings and curb markings will be measured and paid for on a lump sum basis.

314-4 APPLICATION OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS

314-4.2 Control of Alignment and Layout

314-4.2.1 General

Add the following:

New traffic striping and marking layout shall be approved by the City Traffic Engineer or designee prior to installation of striping.

Striping shall not be placed on valve covers, manhole or other at-grade utility covers.

314-4.2.2 Payment

Add the following:

All layout costs associated with striping shall be included in the unit price bid for **“Striping”**.

314-4.3 Painted Traffic Striping and Curb and Pavement Markings

314-4.3.6 Measurement

Delete this section

314-4.3.7 Payment

Delete and replace with the following:

The unit price bid shall include surface preparation, alignment, application, labor, materials, equipment and incidentals as specified in these specifications. Payment for traffic striping in paint shall be included in the unit price bid for **“Striping”**.

314-4.4 Thermoplastic Traffic Striping and Pavement Markings

314-4.4.4 Application

Delete the third paragraph and replace with the following:

Unless otherwise specified in the special provisions, thermoplastic material for traffic striping shall be applied at a minimum thickness of 60 mils for extruded and 40 mils for sprayable thermoplastics. Thermoplastic material for pavement markings shall be applied at a thickness of 100 to 150 mils. The Engineer will take several sample measurements at random locations throughout the project. If any of the locations do not meet the minimum thickness requirement, the Engineer may reject any or all of the striping and require the Contractor to restripe any or all the striping again at the Contractor's expense.

314-4.4.5 Measurement

Delete this section

314-4.4.6 Payment

Delete and replace with the following:

Payment for “**Striping**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; preparation of existing surfaces (unless otherwise directed by the Engineer), alignment, application, all labor, materials, equipment and all related incidentals necessary to complete the work.

Payment for “**Basketball Court Striping**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; preparation of court surfacing, alignment, layout, application, all labor, materials, equipment and all related incidentals necessary to complete the work.

Payment for “**Handicap Parking Stall Striping and Signing**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; surface preparation, layout, application, stenciling, paint, curb paint, handicap sign panel, post, foundation, post cap, markings, and all related items necessary to complete the work in place per SDRSD M-27A and the details in the Drawings.

314-5 PAVEMENT MARKERS

314-5.6 Measurement

Delete and replace with the following:

Retroreflective and non-retroreflective pavement markers will be measured on a lump sum basis.

314-5.7 Payment

Delete and add the following:

Payment for all pavement markers shall be included in the unit price bid for “**Striping**”.

314-6 TEMPORARY STRIPING AND MARKERS

Add the following section:

314-6.1 General

Temporary markers, “Temporary Tabs”, shall be placed and maintained by the Contractor for all striping, including stop bars, and crosswalks for the entire period from which striping is removed until the final placement of striping. Temporary markers shall contain 2-way clear retroreflective for all yellow striping lines and one-way clear retroreflective markers for all white striping lines. Temporary markers shall be removed prior to the placement of asphalt paving and surface seals and upon final completion of all striping.

314-6.2 Measurement and Payment

Payment for Temporary Striping and Markers shall be included in the applicable bid items of work which require the placement of temporary striping and markers prior to the placement of final striping.

314-7 TRAFFIC SIGNS

Add the following section:

314-7.1 General

Traffic Signs shall be installed on Break-Away Post Per SDRSD M-45.

314-7.2 Measurement and Payment

Payment for **“Place Roadway Sign”** shall be measured and paid for on a per each basis and shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; Telespar post, post cap, diamond grade sign and all related and appurtenant work in accordance with SDRSD M-45 and no additional compensation will be made therefore.

Payment for handicap parking signage shall be considered as included in the unit price bid for **Handicap Parking Stall Striping and Signing**” and no separate payment will be made therefore.

SECTION 315 – SITE FURNISHINGS

Add the following section:

315-1 GENERAL

The Contractor shall furnish and install all site furnishing items in accordance to the manufacturer's requirements unless otherwise specified in Section 215 or herein and to the locations shown on the Drawings or as directed by the City.

315-2 MEASUREMENT AND PAYMENT

315-2.1 Bike Rack

Payment for “**Bike Rack**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; bike rack, mounting hardware, concrete pad in the shape and dimensions shown on the Drawings, reinforcing steel, anchor bolts, installation of the bike rack, and all related items necessary to complete the work in place per the manufacturer's recommendations.

315-2.2 Picnic Table

Payment for “**Picnic Table**” shall be measured and paid for on an each basis at the size and type listed in the Plans and on the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; picnic table, installation of picnic table, concrete pad, anchor bolts, and all related items necessary to complete the work in place per the manufacturer's recommendations and the details in the Drawings.

315-2.3 Park Bench

Payment for “**Park Bench**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; park bench, installation of park bench, mounting hardware, concrete pad, reinforcing steel, anchor bolts, and all related items necessary to complete the work in place per the manufacturer's recommendations and the details in the Drawings.

315-2.4 Trash Receptacle

Payment for “**Trash Receptacle**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; trash receptacle, installation of trash receptacle, mounting hardware, concrete pad, reinforcing steel, anchor bolts and all related items necessary to complete the work in place per the manufacturer's recommendations an the details in the Drawings.

315-2.5 Pet Waste Station

Payment for “**Pet Waste Station**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; pet waste station, installation of pet waste station, station signage, (3) waste bag rolls per station, mounting post, mounting hardware, concrete foundation, and all related items necessary to complete the work in place per the manufacturer’s recommendations and the details in the Drawings.

315-2.6 Interpretive Signage

Payment for “**Interpretive Sign**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; Corten steel frames and bases, high pressure laminate signs, protective Lexan sheet, installation of interpretive sign, mounting hardware, concrete foundations, reinforcing steel, and all related items necessary to complete the work in place per the manufacturer’s recommendations and the details in the Drawings.

315-2.7 Bike Repair Station

Payment for “**Bike Repair Station**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; bike repair station, air pump kit, pump stop, concrete foundation, reinforcing steel, mounting hardware, and all related items necessary to complete the work in place per the manufacturer’s recommendations.

315-2.8 Drinking Fountain

Payment for “**Drinking Fountain**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; drinking fountain, installation of drinking fountain, mounting hardware, potable water piping, valves, valve boxes, drainage pipes, drain box, meter box, drain pipe, perforated pipe, filter fabric, gravel sump, gravel, concrete foundation to the size and shape shown in the Plans, reinforcing steel and all related items necessary to complete the work in place per the manufacturer’s recommendations and the details in the Drawings.

The limits of payment for Drinking Fountain shall include all items of work necessary to install the potable water drinking fountain system from the valve/valve box to the gravel sump per the details in the Drawings.

315-2.9 Pet Fountain/Dog Fountain

Payment for “**Pet Fountain/Dog Fountain**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; drinking fountain, installation of drinking fountain, mounting hardware, potable water piping, valves, valve boxes, drainage pipes, drain box, meter box, drain pipe, perforated pipe, filter fabric, gravel sump, gravel, concrete foundation to the size and shape shown in the Plans, reinforcing

steel and all related items necessary to complete the work in place per the manufacturer's recommendations and the details in the Drawings.

The limits of payment for Pet Fountain/Dog Fountain shall include all items of work necessary to install the potable water drinking fountain system from the valve/valve box to the gravel sump per the details in the Drawings.

315-2.10 Hot Coal Bin

Payment for “**Hot Coal Bin**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; hot coal bin, concrete foundation, reinforcing steel, mounting hardware, and all related items necessary to complete the work in place per the manufacturer's recommendations.

315-2.11 Barbecue Grill

Payment for “**Barbecue Grill**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; barbecue grill, concrete foundation, reinforcing steel, mounting hardware, and all related items necessary to complete the work in place per the manufacturer's recommendations

315-2.12 Bean Bag Toss

Payment for “**Bean Bag Toss**” shall be measured and paid for on an each pair basis and shall include full compensation for furnishing all labor, materials, equipment, tools, and incidentals necessary to perform the work including but not limited to; precast bean bag toss game, base material, bean bag toss sets, installation of bean bag toss game, and all related items necessary to complete the work in place per the manufacturer's recommendations and the details in the Drawings. Each Bean Bag Toss quantity shall include a pair of precast concrete receptacles.

315-2.13 Table Tennis

Payment for “**Table Tennis**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; table tennis, mounting hardware, and all related items necessary to complete the work in place per the manufacturer's recommendations

315-2.14 Portable Restroom Screened Enclosure

Payment for “**Portable Restroom Screen Enclosure**” shall be measured and paid for on a lump sum basis and shall include all labor, materials, equipment, tools, and incidentals necessary to perform the work including but not limited to; preparation of shop drawings, steel fabrication, field welding, pre-weathering, vandal resistant hardware, concrete slab/foundations, decorative panels, shipping and all related incidentals required to complete the work in place.

315-2.15 Dog Park Equipment and Amenities

Payment for all Dog Park Equipment and Amenities shall be included in the lump sum price bid for “Dog Park Equipment and Amenities” and shall include all labor, materials, equipment, tools and incidentals necessary to perform the work including all concrete foundations, dog park equipment, dog park signs, dog siluettes, concrete pads, and vandal resistant hardware.

315-2.16 Disc Golf

Payment for “**Disc Golf Tee Box**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary including but not limited subgrade preparation, reinforcing steel, exposed aggregate finish and all other related work.

Payment for “**Disc Golf Goal**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary including but not limited to disc golf goal, numbering kit, (3) locking anchor collars with concrete foundations and all other related work.

Payment for “**Disc Golf Tee Informational Signage**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary including but not limited to sign posts, concrete foundations, signage, vandal resistant hardware, and all other related work.

Payment for “**Disc Golf Safety Signage**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary including but not limited to sign posts, concrete foundations, signage, vandal resistant hardware, and all other related work.

Payment for “**Disc Golf Rules Signage**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary including but not limited to sign posts, concrete foundations, signage, vandal resistant hardware, and all other related work.

315-2.17 Gooseneck Basketball Hoop

Payment for “**Gooseneck Basketball Hoop**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary including but not limited to; basketball pole, foundation, backboard, goal netting, hardware, and all related items necessary to complete the work in place per the manufacturer’s recommendations and the details in the Plans.

315-2.18 Shade Structures, Cantilevered Pergola, and Kiosks

Payment for “**Shade Structure,**” shall be measured and paid for on a lump sum basis for each shade structure size and type listed in the Drawings and the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; shade structure, decorative columns, vented frame cupola, standing seam metal roofing, tongue & groove sub-roof, mounting

hardware, concrete foundations, reinforcing steel, and all related items necessary to complete the work in place.

Payment for “**Cantilevered Pergola**,” shall be measured and paid for on a lump sum basis for each shade structure size and type listed in the Drawings and the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; pergola structure, decorative columns, lighting, mounting hardware, concrete foundations, reinforcing steel, and all related items necessary to complete the work in place.

Payment for “**Entry Kiosk**” shall be measured and paid for on an each basis for each kiosk type listed in the Drawings and the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; kiosk structure, roofing, masonry column surround, precast concrete cap, veneer stone, anti-graffiti coating, locking display cases, cork interior boarder, concrete foundation, reinforcing steel and all other items shown on the drawings or specifications.

Payment for “**Disc Golf Kiosk**” shall be measured and paid for on an each basis for each kiosk type listed in the Drawings and the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; kiosk structure, roofing, locking display case, cork interior boarder, concrete foundation, reinforcing steel and all other items shown on the drawings or specifications.

315-2.19 Outdoor Fitness Equipment

Payment for “**Outdoor Fitness Equipment**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; foundations, reinforcing steel, hardware, mounting brackets, Four-Person Lower Body Combo, Three-Person Static Combo, Upright Stationary Bike, Two-Person Air Walker, installation of equipment, and all related items necessary to complete the work in place per the manufacturer’s recommendations and details in the Drawings.

315-2.20 Park Regulation Signs

Payment for “**Park Regulation Sign**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; footing, telespar post, graphic design layout, sign fabrication, vandal resistant hardware and all related items necessary to complete the work in place.

315-2.21 Sensitive Habitat Signs

Payment for “**Sensitive Habitat Signs**” shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; graphic design layout, sign fabrication, vandal resistant hardware and all related items necessary to complete the work in place.

315-2.22 Playground Surfacing

Payment for **“Play Area Surfacing”** shall be measured and paid for on a square foot basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; engineered wood fiber, samples, separation fabric, playground safety mats, stakes , compaction of native material and of engineered wood fiber and all related items necessary to complete the work in place per the manufacturer’s recommendations and the details in the Drawings.

315-2.23 Play Structures

Payment for **“Play Structure”** shall be measured and paid for on a lump sum basis per type of play structure noted in the Plans and on the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; play structure, installation of play structure components, foundations, hardware, mounting brackets, and all related items necessary to complete the work in place per the manufacturer’s recommendations and details in the Plans.

315-2.24 Nature Discovery Area

Payment for **“Nature Discovery Area”** shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary including but not limited to; salvaging and placement of tree sections, cut logs, reinforcing bars, concrete footings, hardware, stakes, signs panels, telespar posts, and foundations, and all related items necessary to complete the work in place per the details in the Drawings and these Specifications.

315-2.25 Salvage and Reuse Existing Site Furnishings

The Contractor shall salvage and relocate existing park benches and picnic tables as shown on the Drawings. If existing furnishings are damaged during the relocation, Contractor shall, at its expense, purchase and install new site furnishing to the location shown on the Drawings or as directed by the City.

Payment for **“Salvage and Reuse Existing Site Furnishings”** shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, tools and incidentals necessary to salvage, relocate, and reuse existing park benches and picnic tables as shown on the Drawings.

315-2.26 Pedestal Type Hose Bib Hydrant

Payment for **“Pedestal Type Hose Bib Hydrant”** shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; pedestal hose bib hydrant, mounting hardware, potable water piping, valves, valve boxes, concrete foundation and all related items necessary to complete the work in place per the manufacturer’s recommendations and as specified..

PART 6 - TEMPORARY TRAFFIC CONTROL

Is amended as follows:

SECTION 600 - ACCESS

600-2 VEHICULAR ACCESS

Add the following subsections:

600-2.1 General

During any and all aspects related to the work, the Contractor shall maintain at least one lane of through traffic in each direction. At least one driveway shall remain open to all commercial properties. When roadway surfaces are removed in excess of 1-1/2-inches, driveways shall be ramped to provide access at the end of each day and the cost of ramping shall be included in the unit price bid for “**Traffic Control**” of the applicable bid items and no additional compensation will be made therefore.

600-2.2 Payment

Payment for Vehicular Access shall be included in the lump sum price bid for “**Traffic Control**” and shall include all labor, equipment, materials, tools, and incidentals necessary to perform the work.

600-3 PEDESTRIAN ACCESS

Add the following subsections:

600-3.1 General

When the work area encroaches upon a sidewalk, walkway, pedestrian ramp or crosswalk area, special consideration must be given to the pedestrian's safety. Pedestrians must be separated from the work area and protective barricades, fencing, handrails and bridges, together with warning and guidance devices must be used to define the passageway. Pedestrian walkways shall be maintained at least four (4) feet in width with a minimum vertical clearance to any obstruction within the walkway of seven (7) feet. At no time shall pedestrians be diverted into a portion of the street without a physical barrier being provided, and in those areas where material can fall the walkway shall be covered. Appropriate signs and warning must be installed at the construction limits in advance of any crosswalk or pedestrian walkway that will be closed or detoured. The pedestrian walkways must be approved prior to installation by the Engineer.

A flagger shall be provided at any Work site adjacent to schools or their designated crossings during the morning and afternoon school access periods.

600-3.2 Payment

Payment for Pedestrian Access shall be included in the lump sum price bid for “**Traffic Control**” and shall include all labor, equipment, materials, tools, and incidentals necessary to perform the work.

SECTION 601 - WORK AREA TRAFFIC CONTROL

601-1 GENERAL

Add the following subsections:

601-1.1 Encroachment Permit

No work is permitted in the public roadways without an approved Encroachment Permit and approved traffic control plans. Contractor may obtain the Encroachment Permit application and City of Santee standard traffic control plan sheets for the preparation of traffic control plans at the Department of Development Services, Building 4, 10601 Magnolia Avenue, Santee, CA, 92071.

601-1.2 Traffic Control Work Hours

Work requiring traffic control will be permitted only during the work hours listed below per listed street category unless otherwise noted.

Carlton Hills Boulevard: Monday through Friday, 8:30 a.m. to 3:30 p.m.

601-2 TRAFFIC CONTROL PLAN (TCP)

Delete entire section and subsections and substitute following:

601-2.1 Traffic Control Plan

The Contractor shall prepare and submit a traffic control plan to the Engineer ten (10) working days for review prior to commencing work on each street. The traffic control plans shall display the name and stamp of a registered Civil Engineer or a registered Traffic Engineer. The traffic control plans shall be prepared on the City's approved title block. No work may be performed in any public right of way without approval from the Director of Development Services or his representative through an encroachment permit. An approved Traffic Control Plan and encroachment permit shall be required for any lane, shoulder or sidewalk closure. The Contractor is responsible to have the traffic control plan on site at all times during the work available for review by the Engineer.

Traffic control required by such work shall be in accordance with the San Diego Area Regional Standard Drawings and the California Manual on Uniform Traffic Control Devices (CA MUTCD). All traffic control devices, apparel worn by personnel, and equipment shall be in good repair at all times.

601-2.1.1 Phasing Plan

The Contractor shall submit a construction phasing plan to the Engineer for review and approval a minimum of 7 working days prior to any work required on multiple roadways. The construction phasing plan shall take into account resident and commercial parking while each street is under construction. Work shall be phased in a way such that adjacent streets can be utilized to provide adequate means for parking. Depending on access restriction due to the work a Detour Plan may be required to provide adequate access in accordance with Section 601-2.3.

601-2.1.2 Detour Plan

The Contractor shall prepare a detour plan when the work requires vehicles to be directed onto alternate or adjacent streets as required to complete the work. The detour plan shall provide detour signs spaced no greater than 750' increments clearly directing the traffic back on the original street which the detour occurred on. Detour plan shall be submitted to the City traffic engineer for review and approval a minimum of 10 business days prior any scheduled traffic control work requiring the detouring of traffic. Detour plans shall not direct traffic onto private property, private driveways and alleys.

601-2.1.3 Payment

Payment for the preparation and coordination of Traffic Control Plans, Phasing Plans, and Detour Plans shall be included in the lump sum price bid for **"Traffic Control"** and shall include all labor, equipment, material, tool, incidentals and engineering services necessary to perform the work.

601-2.2 Traffic Control Devices

601-2.2.1 General

All traffic control devices shall conform to the California MUTCD. The Contractor shall furnish, install, and maintain the traffic control devices as shown on the approved traffic control plans, and any additional traffic control devices as may be required to ensure the safe movement of vehicles, pedestrians, and to provide a safe work area for construction workers. The name of the owner of the traffic control devices shall be clearly noted on each device.

601-2.2.2 Barricades

Barricades used at night time hours must be equipped with flashing lights.

601-2.2.3 Signs

Signs at night must be reflectorized with a material that has a smooth, sealed outer surface, or illuminated to show approximately the shape and color, day and night. Use internally or externally illuminated signs where there is significant interference from extraneous light sources and reflectorized signs will not be effective. External light sources must be properly aligned and/or shielded to protect drivers from glare. Street lighting is not adequate for sign illumination.

601-2.2.4 Arrow Boards

601-2.2.5 Portable Changeable Message Signs (PCMS)

601-2.2.6 Temporary Pavement Markers

Temporary pavement markers (temp tabs) shall be flexible, 4 inch wide by 2 inch high with a minimum of 1 inch wide adhesive bottom. Temporary pavement markers shall contain 1-way reflective stripe for all white striped lines and 2-way reflective stripe for

yellow striped lines. Temporary pavement markers shall match in color (white or yellow) to the type of striping on the roadway.

601-2.2.7 Payment

Payment for the furnishing, installation and maintenance of Traffic Control Devices, shall be included in the lump sum price bid for **“Traffic Control”** and shall include all labor, equipment, material, tool, incidentals necessary to perform the work.

601-2.3 Traffic Control Implementation

601-2.3.1 Planning

All work shall be planned well in advance to keep traffic obstructions, public inconvenience and lost work time to a minimum. The Contractor and any subcontractor which will be installing, maintaining, or implementing traffic control shall visit the job site during the bid period and before starting the Work to consider:

- a) Traffic condition.
- b) Existing traffic controls.
- c) Traffic lane requirements.
- d) Physical features.
- e) Visibility restrictions.
- f) Problems of access to private property.
- g) Business access and activity.
- h) Existing parking requirements,
- i) Proximity to fire stations, police stations, and hospital to maintain emergency vehicle access.
- j) The type, number and location of signs, barricades, lights and other traffic devices for the Work.
- k) Means of mitigating any adverse effect upon the handicapped.

601-2.3.2 Temporary Traffic Lanes

1. All lane closures and traffic control set up shall occur within the specified work hours shown the approved traffic control plans.
2. Temporary control of traffic in work areas requires the provision of adequate street space to accommodate the traffic demands, particularly during peak traffic hours.
3. Additional Temporary traffic lane requirements for construction activities in arterial streets may be specified on the Encroachment Permit, on the Contract Plans, the approved Traffic Control Plans or in the Specifications. These requirements constitute a part of the Work and must be adhered to.
4. Construction activities in major or prime arterial streets shall be planned and scheduled to minimize interference with traffic.
5. All temporary traffic lanes shall be a minimum of ten (10) feet in width unless otherwise authorized.
6. Suitable surfacing must be provided for the temporary traffic lanes in work areas. When traffic is diverted from the existing pavement, temporary asphalt surfacing

shall be provided to withstand the traffic and required loading conditions necessary for such work.

7. Construction equipment not actively engaged in the Work and employee vehicles shall not be parked in the vicinity of the Work in such a manner as to further restrict or obstruct traffic flow. Vehicles and equipment in continuous or frequent use may be operated or parked in the same traffic lane as the Work obstruction.
8. The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays and designated legal holidays and when construction operations are not active.

601-2.3.3 Temporary No Parking

The Contractor shall place "No Parking –Tow Away Zone" signs along the street 48 hours in advance of its impending work. Signs shall be furnished by the Contractor and shall contain the day, date **AND** time of which no parking is in effect. The day **AND** date shall be the actual days of work and not a range of dates. The Contractor shall remove these signs immediately when they are no longer needed. If the work is delayed or rescheduled, the Contractor shall either remove the signs or re-date the signs if the work will occur within the following five (5) days. If work is delayed for more than five (5) days after the signs were placed, the signs shall be removed and placed back up 48 hours in advance of the revised construction date. This cost shall be included in the unit price bid for the project traffic control.

All signs shall be clear and free of other information that may cause confusion as to the time and days of work. Lettering for the days of work shall be a minimum of 3" in height. Signs shall be spaced no farther than 25' or sufficiently in place to identify all areas of no parking.

All affected residents and businesses shall be notified by the Contractor at least 48 hours in advance of work which may cause any interference or obstruction to normal operations. For business and resident notification, see Section 7-17.2 of these Special Provisions.

601-2.3.4 Road Closures

All road closures shall be made with a minimum of three (3) Type I barricades and six (6) cones. The center barricade shall have a "Road Closed" sign attached to it.

The Contractor shall cooperate with local authorities relative to handling traffic through the area and shall make his/her own arrangements relative to keeping the working area clear of parked vehicles. Contractor shall coordinate street closings and trash pickup service with Waste Management.

601-2.3.5 Sign Types

1. Traffic signs are classified into several functional groupings: construction, warning, guide and regulatory.
2. The use of "Regulatory" signs must be approved by the Engineer. When required, all such signs will be provided, installed and maintained by the Contractor.

3. Existing "Regulatory" signs within or adjacent to the work area must be maintained by the Contractor. If existing signs are not appropriate for traffic conditions in the work area, the Engineer must be notified to determine if signs shall be covered, replaced or relocated.
4. Temporary "No Parking" signs shall be installed and removed as directed by the Engineer.
5. Signs shall not be posted on any tree, utility pole or existing traffic sign.

601-2.3.6 Sign Placement

1. The location of signs will depend upon alignment, grade, and location of street intersections and posted speed limit. Signs shall face and be visible to oncoming traffic and be mounted so as to resist displacement. The center of signs shall be at least four and one half (4 1/2) feet above the roadway. Vertical clearance for signs where pedestrian traffic is permitted shall be seven (7) feet. "Advance Warning" signs shall be located on the right hand side of traffic lanes. On divided roadways supplemental signs shall be placed on the divider.
2. All signs which are to convey their messages during darkness shall be reflectorized or illuminated.
3. No signs or supports shall bear any commercial advertising.
4. Signs normally shall be installed immediately before work is to commence and must be removed immediately after work is complete.
5. If at any time a sign is not required, it shall be covered or removed.

601-2.3.7 Pavement Striping, Markings, and Markers for Temporary Traffic Control

1. The Contractor shall be responsible for providing and maintaining proper traffic delineation for the duration of work which shall include all temporary reflective pavement markers as needed. Temporary pavement markers shall be placed to delineate lane lines, cross walks and limit lines.
2. Restriping will be considered under the following conditions:
 - a. Where traffic is diverted for extended periods.
 - b. When traffic is to be diverted to the left of an existing double yellow centerline for two or more consecutive days/nights.
 - c. When the work area is adjacent to an intersection and results in a transition within the intersection.
 - d. When the traffic lane is continuously obstructed for more than five (5) working days and traffic volumes require two or more lanes in a single direction.
 - e. In other unusual situations when traffic and physical conditions require special treatment.

3. The Engineer shall determine the need for and extent of striping removal and restriping.
4. The installation of temporary striping or pavement markers will be the responsibility of the Contractor and shall be checked daily and replaced if necessary.

Sole determination as to the adequacy of the construction signing and barricading shall be made by the City Traffic Engineer. Supplemental signing and barricading required, in the opinion of the Engineer, to protect the public shall be immediately erected by the Contractor at no additional cost.

601-2.3.8 Temporary Pavement Markers

Place temporary reflective pavement markers on all roadways with a striped centerline or yellow median line immediately upon completion of resurfacing or slurry sealing work. Contractor shall replace any damaged or missing temporary pavement markers as necessary until the placement of final striping. Remove all temporary pavement markers only for the application of new permanent striping.

Two yellow temporary markers shall be placed every 24 feet along all existing double yellow stripe lines.

White temporary pavement markers shall be placed every 48 feet along existing with striping including skip line, and solid line for left or right turn pockets.

Crosswalks and limit lines shall contain temporary pavement markers every 5 feet along the existing crosswalk and limit line striping.

Striped islands shall contain a yellow temporary marker every 2 feet along the nose of the median at all intersections.

601-3 PAYMENT

Delete this section and replace with the following:

Payment for “**Traffic Control**” shall be paid for on a lump sum basis. This item shall include, but not limited to, preparation of traffic control plans, cones, signs, electronic message boards, flashing arrow signs, flaggers, detours, delineators, barrels, removal of striping, temporary lane lines, construction signing, barricades, construction pavement markings and all other work including temporary pavement. The Contractor shall be required to maintain all traffic control items throughout the duration of the project. The amount bid for this item shall be paid over the duration of the project with the amount paid on each monthly progress estimate determined by the percent complete on all other bid items.

PART 7 – STREET LIGHTING AND TRAFFIC SIGNAL SYSTEMS

Revise the title of this Part as follows:

PART 7 – ELECTRICAL AND LIGHTING SYSTEMS

SECTION 700 - MATERIALS

Is amended as follows:

700-3 COMMON COMPONENTS

700-3.3 Fasteners and Hardware

All exposed fasteners including those for receptacle outlets, outlet covers, light switch covers, light pole access covers, junction boxes, and light fixture attachments shall be vandal resistant per Section 206-9. It is the intent of this section to prevent any park user or person, from gaining access into to electrical components which under normal installation and with the fasteners by the manufacturer are typically provided with slotted screws or phillips head screws, to have these replaced with vandal resistant fasteners and hardware.

700-3.5 Conduit

700-3.5.1 General

Add the following paragraph:

Underground lighting and electrical conduit shall be rigid non-metallic PVC Shedule 40. All above ground conduits shall rigid galvanized steel conduit for both outdoor and indoor installations. Transitions from PVC conuit to galvanized steel conduit shall be made 2" above ground with water proof connections.

700-3.7 Pull Boxes

Add the following paragraph:

Pull boxes, covers, and extensions shall be as shown on the Drawings and the Bid Schedule unless otherwise specified. Pull box lids shall contain galvanized plate security-locking type as manufactured by MR Steel or approved equivalent.

Nontraffic pull box and cover must comply with ANSI/SCTE 77, "Specification for Underground Enclosure Integrity" for Tier 22 load rating and must be gray or brown.

Pull boxes for park lighting shall be labeled "Lighting"

Pull boxes for park electrical distribution shall be labeled "Electrical"

700-3.12 Receptacles

Add the following subsection:

All exterior receptacles shall be GFCI Type, 15amp, tamper resistant and be weather resistant type.

700-3.13 Outdoor Receptacle Covers

Add the following subsection:

All outdoor receptacles shall contain stainless steel vandal resistant locking covers as manufactured by DA-LITE, Model No. 40962 or approved equal. All locking covers shall be ordered with matching keys and contain vandal resistant screws per Section 206-9.

700-4 STREET LIGHTING SYSTEM MATERIALS

Revise the title of this subsection as follows:

700-4 PARK LIGHTING SYSTEM MATERIALS

700-4.2 Wire/Conductors

700-4.2.1 General

Add the following:

All site and lighting conductors shall be THWN. All conductors shall be labeled with vinyl, waterproof labels, 2"x2" in size and with label manufacturers printed text in each pull box. Labels shall be connected to wiring with 1/4" wide vinyl cable ties. All conductors shall be labeled with the circuit number at all light poles, receptacles and panels with a waterproof vinyl label. Submit labels to City prior to order or installation.

700-4.9 Parking Lot Lights

Add the following subsection:

700-4.9.1 Pole

The pole for parking lot lights shall be a 22-foot high, 4-inch diameter round, 7 gauge, grade B non-tapered steel pole, 26,000 PSI strength conforming to ASTM A500 as manufactured by Visionaire Lighting, Model No. RNTS or approved equivalent. The base plate shall be 9 inches round, 36,000 PSI strength hot-rolled steel conforming to ASTM-A36. Anchor bolts shall be hot-dipped galvanized with a "J" bend on one end, 36,000 PSI strength conforming to ASTM F1554 grade 36.

700-4.9.2 Mast Arm

The mast arm for parking lot lights shall be single-mount constructed from corrosion resistant, durable cast aluminum designed to slip over the pole, as manufactured by Visionaire Lighting, Model VA110-L or approved equal.

700-4.9.3 Luminaire

Parking lot lights shall include a single LED fixture post top mounted to the mast arm. Luminaire shall contain not less than 42 LEDs, 350 milliamps, 4,000k, universal 120-277V with square shaped optics as manufactured by Visionaire Lighting, Model No. ODN-2-L or approved equal. Cap shall be type C2 and housing shade shall be type H1.

700-4.10 Park Lights

Add the following subsection:

700-4.10.1 Pole

The pole for park lights shall be a 18-foot high, 4-inch diameter round, 7 gauge, grade B non-tapered steel pole, 26,000 PSI strength conforming to ASTM A500 as manufactured by Visionaire Lighting, Model No. RNTS or approved equivalent. The base plate shall be 9 inches round, 36,000 PSI strength hot-rolled steel conforming to ASTM-A36. Anchor bolts shall be hot-dipped galvanized with a "J" bend on one end, 36,000 PSI strength conforming to ASTM F1554 grade 36.

700-4.10.2 Mast Arm

The mast arm for park lights shall be single-mount constructed from corrosion resistant, durable cast aluminum designed to slip over the pole, as manufactured by Visionaire Lighting, Model VA110-L or approved equal.

700-4.10.3 Luminaire

Park lights shall include a single LED fixture post top mounted to the mast arm. Luminaire shall contain not less than 42 LEDs, 350 milliamps, 4,000k, universal 120-277V with square shaped optics as manufactured by Visionaire Lighting, Model No. ODN-2-L or approved equal. Cap shall be type C2 and housing shade shall be type H1.

700-4.11 Southern Trail Lights

Add the following subsection:

700-4.11.1 Pole

The pole for the southern trail lights shall be a 14-foot high, 4-inch diameter round, 7 gauge, grade B non-tapered steel pole, 26,000 PSI strength conforming to ASTM A500 as manufactured by Visionaire Lighting, Model No. RNTS or approved equivalent. The base plate shall be 9 inches round, 36,000 PSI strength hot-rolled steel conforming to ASTM-A36. Anchor bolts shall be hot-dipped galvanized with a "J" bend on one end, 36,000 PSI strength conforming to ASTM F1554 grade 36.

700-4.11.2 Mast Arm

The mast arm for the southern trail lights shall be single-mount constructed from corrosion resistant, durable cast aluminum designed to slip over the pole, as manufactured by Visionaire Lighting, Model VA110-L or approved equal.

700-4.11.3 Luminaire

Southern trail lights shall include a single LED fixture post top mounted to the mast arm. Luminaire shall contain not less than 42 LEDs, 350 milliamps, 4,000k, universal 120-277V with north-facing optics as manufactured by Visionaire Lighting, Model No. ODN-2-L or approved equal. Cap shall be type C2 and housing shade shall be type H1. Light must be cast in the direction away from the San Diego River.

700-4.12 Basketball Court Lights

Add the following subsection:

700-4.12.1 Pole

The pole for basketball court lights shall be a 30-foot high, 5-inch diameter round, 7 gauge, grade B non-tapered steel pole, 26,000 PSI strength conforming to ASTM A500 as manufactured by Visionaire Lighting, Model No. RNTS or approved equivalent. The base plate shall be 12 inches round, 36,000 PSI strength hot-rolled steel conforming to ASTM-A36. Anchor bolts shall be hot-dipped galvanized with a "J" bend on one end, 36,000 PSI strength conforming to ASTM F1554 grade 36.

700-4.12.2 Mast Arm

The mast arm for basketball court lights shall be single-mount constructed from corrosion resistant, durable cast aluminum designed to slip over the pole, as manufactured by Visionaire Lighting, Model VA110-L or approved equal.

700-4.12.3 Luminaire

Basketball court lights shall include a single LED fixture post top mounted to the mast arm. Luminaire shall contain not less than 84 LEDs, 350 milliamps, 4,000k, universal 120-277V with front-facing square shaped optics as manufactured by Visionaire Lighting, Model No. ODN-3-L or approved equal. Cap shall be type C2 and housing shade shall be type H1.

700-4.12.4 Basketball Lighting Control Pedestal

Basketball lighting control pedestal shall be a 12"x12" by 46" high, 12 gauge, Nema 4R, stainless steel enclosure with continuously welded seams. Enclosure shall have 2 compartments, with separate hinging lockable doors. The top compartment shall contain a stainless steel, vandal resistant, waterproof push button to activate the basketball lighting which is connected to a Musco Lighting Systems Controller located in the restroom utility area. The push button shall be located on exterior of the top compartment located 42 inches high. The lower compartment shall house (2) 20amp double gang GFCI receptacle for use during special events only. A stainless steel identification plaque shall be installed 2-inches above the push button and shall state "PUSH TO ACTIVATE BASKETBALL LIGHTING" in one-half inch high lettering. Plaque shall be installed with at least (4) stainless steel, vandal resistant fasteners. Contractor shall submit cabinet shop drawings to the City for approval prior to order and fabrication. Cabinet shall be surface mounted to concrete foundation with stainless steel bolts and hardware located within the interior of the cabinet. Foundation shall be at least 16x16 by 12" thick. Cabinet shall include a 5/8" x 8' grounding rod which terminates inside the cabinet. Contractor shall coordinate push button controllers with Musco Lighting Systems.

Contact: Tesco Controls, Inc.
(800) 948-3726
www.tescocontrols.com

SECTION 701 - CONSTRUCTION

Is amended as follows:

701-19 PAINTING AND GALVANIZING

Is amended as follows:

701-19.1 General

Add the following subsections:

701-19.1.1 Surface Preparation

Surfaces to be painted shall be washed and cleaned with additives per paint manufacturer's specifications to kill chalky, mold and mildew and eliminate surface dirt. Loose, peeling and flaky paint shall be removed prior to painting and cleaning. Surfaces shall then be wiped with acetone and sanded with 180 grit sandpaper. All debris shall be disposed of per State and Federal regulations.

701-19.1.2 Painting Of Light Poles, Mast Arms, and Equipment

The finish color for the poles, mast arms, signal housings (except front side of back plate) and framework, pedestrian signal housings and framework, pedestrian push button housings, and all other equipment mounted to the light poles (unless directed by Engineer) shall be Nut Brown (RAL 8011). The Contractor shall first apply Precisions DTM 1300v100 High Build Modified Epoxy Primer or approved equal as a first/primer coat. The primer coat shall be a minimum of 3.0 mils thick. The Contractor shall then apply Precision's PC3v100 Acrylic Polyurethane Topcoat or approved equal as a top coat. Final coat shall be a minimum of 2.0 mils thick. Paint installation and drying times shall be per manufacturer specifications.

SECTION 702 - PAYMENT

Add the following section:

702-1 SITE ELECTRICAL SYSTEM

Payment for **“Site Electrical System”** shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; layout, removal and disposal of excess materials, samples, conduit, conduit trenching and backfilling, conductors, pull tape, pull boxes, vandal resisting lids and hardware, transformers, outlet receptacles, service pedestals, panels, basketball court lighting control pedestal, push buttons, relays, contactors, electrical control panels, cabinets, circuit breakers, bonding, grounding, splicing, GFCI receptacles, locking covers, labels, and all related items necessary to complete the work in place per the drawings, specifications and manufacturers recommendations..

702-2 LIGHTING

Payment for **“Parking Lot Lights,” “Park Lights,” “Southern Trail Lights,”** and **“Basketball Court Lights”** shall be measured and paid for on an each basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; layout, removal and disposal of excess materials, poles, mast arm, luminaires, foundation sized as shown in the Plans, reinforcing steel, wiring, fusing, grounding, anchor bolts, hardware, paint and primer, custom color, and all related items necessary to complete the work in place per the manufacturer’s recommendations and the details in the Plans.

PART 8 - LANDSCAPING AND IRRIGATION

Is amended as follows:

SECTION 800 – MATERIALS

800-1 LANDSCAPING MATERIALS

800-1.1 Topsoil

800-1.1.1 General

Delete this entire subsection and substitute the following:

Topsoil shall be Class “C”, existing soil, clean and free of weeds, debris, trash and rocks over 1/2” in diameter, that has been amended to meet the horticultural requirements for Class “A” topsoil. Amended Class “C” topsoil shall be placed in all lawn areas, to a depth of 15”.

Amended topsoil shall have a friable sandy loam character, and be free of roots, clods, pockets of coarse sand, noxious weeds, sticks, brush, and other litter. Topsoil shall not be infested with nematodes or other undesirable insects and plant-disease organisms. Prior to placement, the amended Class “C” topsoil shall meet and be tested for the following agricultural suitability requirements:

pH	6.0 - 7.5
ECe (Electrical Conductivity)	0.0 - 3.0
SAR (Sodium Absorption Ratio)	0.0 – 3.0
Chloride Content	Less than 150 ppm
Organic Content	20-25% by volume
Gradation Limit	Sand: 50% to 80% Silt: 30% maximum Clay: 20% maximum
Permeability Rate	½ inch – 2 inches per hour

800-1.1.5 Agronomic Soils Test

Add the following subsection:

The Contractor shall submit an agronomic soil analysis report with recommendations for soil amendments from a licensed laboratory to City Engineer at conclusion of rough grading and prior to soil conditioning. Soil testing shall be paid for by Contractor. A minimum of twelve (12) soil samples shall be taken from the project site (as directed by the City Engineer) and a soil test performed to determine mineral content, permeability, and agricultural suitability. Topsoil to be used shall also be tested. Soil test shall include recommendations for amending or correcting soil conditions. Results of soil analysis shall be received and approved by City Engineer prior to amending of soil.

Soil test shall be submitted to an approved and qualified laboratory. Testing methods should comply with the United States Department of Agriculture Handbook Publication No. 60, Methods of Soil Analysis published by the Soil Science Society of America and

peer-viewed methods published in scientific journals. Evaluations and recommendations should be based on University of California publications and peer-viewed articles published in scientific journals.

The City Engineer may appoint a representative to oversee soil sampling. The time, depth, location, and number of samples to be taken will be as per instructions from the City Engineer. A minimum of twelve (12) representative samples shall be taken from random and varied locations of the project site that will receive turf, shrub and tree planting. Samples should represent major conditions of exposed cut soils and fill soils. Sample from the top foot for shrub areas and from the expected depth for large container stock. For turf areas, sample both excavated topsoil which is salvaged and stockpiled for reuse and existing topsoil which will be amended in place.

Label each sample for location/origin, type of soil condition visibly observed, and sampling depth. Laboratory report shall identify each sample with the same information. All samples taken shall be split into two samples, one half will be retained by the City Engineer. All samples shall be at least one pint in volume. All samples shall go to an approved soil-testing laboratory. Approved soil-testing laboratories are as follows:

Soil & Plant Laboratory, Inc.
4741 E Hunter Ave
Anaheim, CA 92807
[\(714\) 282-8777](tel:7142828777)

The Contractor shall provide the City Engineer and the Landscape Architect with a copy of the written report by the approved laboratory.

All soil samples shall be analyzed for:

- PH measurement in the saturated extract paste.
- Determination whether limestone is present or not.
- Percent water in saturation extract.
- Electrical conductivity of the saturated extract (salinity E_{Ce})/soluble salts.
- Saturation extract analysis for the major soluble ions: calcium, magnesium, sodium, potassium, chloride, nitrate and sulfate.
- Measurement of sodicity (Sodium Adsorption Ratio).
- Concentration of boron in saturation extract.
- Extractable nutrients and minerals, including potassium, phosphorus, sulfur, magnesium, iron, manganese, zinc, copper, boron, sodium, and molybdenum.
- Problem materials which may be present, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, vanadium.
- Soil permeability.
- Soil gradation.

The extraction methods utilized by the laboratory must be standard methods. Interpretation of the data must be given. The laboratory shall also provide an estimate of the soil texture and soil organic matter.

Each soil analysis shall include written recommendations for soils treatments and soils amendments to be added based upon test results. These recommendations shall include:

- Volume of soil amendment per 1,000 sq. ft. of cu. yd. of backfill mix.
- Pounds of gypsum per 1,000 sq. ft. of cu. yd. of backfill mix.
- Pounds of soil sulfur per 1,000 sq. ft. of cu. yd. of backfill mix.
- Pounds of iron sulfate per 1,000 sq. ft. of cu. yd. of backfill mix.
- Pounds of pre-plant fertilizer per 1,000 sq. ft. of cu. yd. of backfill mix and recommended NPK analysis of fertilizer.
- Pounds of soil polymers per 1,000 sq. ft.
- Recommendations for soil leaching
- Recommendation for tree drain installation
- Pounds of maintenance fertilizer per 1,000 sq. ft. and recommended NPK analysis of fertilizer.
- Recommendation for soil wetting agent and application rate.
- Percent of site soil-to-soil amendment in backfill mix.
- Whether or not soil polymers need to be added to soil.

If any of the above listed items are not recommended, the recommendation shall call for zero volume or zero poundage per 1,000 square feet. All soil test costs will be the responsibility of the Contractor.

Topsoil which requires amending to comply with these specifications shall be uniformly blended prior to placement. Once blended and prior to placement, Contractor shall provide the City with documentation showing the stockpile location(s) and the quantity prepared of the amended topsoil reserved for the Project. Topsoil must comply with above requirements and receive City approval prior to placement.

Upon placement and prior to planting, Contractor shall provide City with a second set of soils testing at each lawn area shown on Plan, to demonstrate compliance with above requirements. Topsoil must receive City approval prior to planting.

800-1.2 Soil Fertilizing and Conditioning Materials

800-1.2.1 General

Add the following paragraph:

Fertilizing and conditioning materials shall be rich in minerals, carbon, organic matter, humic acids and beneficial bacteria (shall be similar or equal to Tri-C Humate or Tri-C Premium Humate).

800-1.2.2 Manure

DELETE in its entirety and SUBSTITUTE with the following:

Manure shall not be used.

800-1.2.3 Commercial Fertilizer

Add the following paragraphs:

Pre-plant fertilizer shall be organic, granular with humic acids 12-12-12 unless otherwise recommended by soil test results (similar or equal to: Tri-C Premium Humate).

Post-plant fertilizer shall be slow-release, organic, granular with humic acids 15-15-15, unless otherwise recommended by soil test results (similar or equal to: Tri-C Premium Humate).

Planting tablets shall be slow-release, organic material 20-10-15 (similar or equal to: Tri-C Myco Tabs), and installed as follows:

Quantity	Weight	Application
One Tablet	5 grams	Per each flattened plant or cutting
One Tablet	21 grams	1-gallon container
Two Tablets	21 grams	5-gallon container
Four Tablets	21 grams	15-gallon container
One Tablet	21 grams	Per each 2 inches of box-sized container

Organic fertilizer (for hydroseeding applications) shall be Biosol 6-1-1 Omri approved organic fertilizer, or an approved equal.

800-1.2.4 Organic Soil Amendment

Delete paragraphs 3 and 4 and add the following:

Type 4 Organic soil amendment (Compost) shall be certified by the U.S. Composting Council's Seal of Testing Assurance Program or an approved equal. Compost shall comply with the following requirements:

Contractor shall supply the City with a 2 cu. ft. sample of the proposed amendment accompanied by Laboratory Analytical Analysis from an approved laboratory illustrating degree of compliance. Guarantee - wt./cu./yd. - 560#-820#. Nitrogen (organic or ammoniac) 0.5% ph (less than) 6.5. Salinity (ec x 10 at 25 c) = 2.5. Iron (fe) expressed as metallic 0.01%. Density - approximately 25 lbs./cu.ft. Organic matter - 85%. A non-ionic wetting agent should be used. Properties: screen analysis: % retained on stacked screens - 1 mesh = 0.2%, 5 mesh = 36.6%, 8 mesh = 25.7%, 12 mesh = 30.7%, 32 mesh = 5.9%; remainder = 0.9%. (Shall be similar or equal to Tri-C Humate Plus).

Type5 organic soil amendment (Mycorrhiza Inoculum) shall be an organic Arbuscular Mycorrhizal Inoculum containing one or more species of mycorrhizae fungi at a minimum rate of 120 propagules per cubic centimeter. Acceptable Mycorrhizal Inoculum Product: "Endo 120" by Tri-C Natural Solutions or approved equal.

800-1.2.5 Mulch

Delete parts (a-f) and substitute the following:

800-1.2.5.1 Mulch

Mulch shall be shredded wood mulch free of any debris, rubbish and shall be free of all dyes. Average dimensions shall be 1" to 3" in length and ¼" to ½" in thickness. Mulch shall be distributed in thickness identified on the Plans. Contractor shall submit one (1) mulch sample, not less than a 5 pound bag, to the City for approval prior to order and installation. Mulch shall be in general, free of any pine needles and leaves.

801-1.2.5.2 Blended Mulch

Blended mulch shall be a natural, medium brown groundcover that knits down to reduce erosion and water loss.

Feedstock includes source separated construction lumber, tree wood, tree trimmings and bark. Use of on site trees shown for removal in this contract is recommended for use and shall be blended into imported blended mulch materials.

Blended mulch is ground to produce a typical particle size of less than one inch in diameter and two inches in length. 90% of the mulch, by volume, shall conform to this particle size range.

800-1.2.5.3 Hydro-Mulch Slurry

Add the following subsection:

Slurry for hydroseed mulch shall consist of the following:

Bonded Fiber Matrix (BFM) shall be ConWed Fibers 'EnviroBlend with TriFlo,' or approved equal, applied at a rate of 1,500 lbs/acre.

Organic fertilizer shall be Hydropost Compost Mulch, or approved equal, applied at a rate of 800 lbs/acre.

Tackifier/soil stabilizer shall be M-Binder, or approved equal, applied at a rate of 150 lbs/acre.

Mycorrhizal Inoculant shall be "Endo 120" by Tri-C Natural Solutions or approved equal, applied at a rate of 60 lbs/acre.

800-1.2.6 Inorganic Soil Amendments

Add the following subsection:

Soil sulfur shall be 99.5% elemental. Sizing on stacked screen shall be approximately: 8 mesh 4.3%; 20 mesh 7.8%; 50 mesh 46.9%; 100 mesh 39.3%; 200 mesh 1.7%.

Humate shall be 'Humate Plus' by Tri-C Enterprises. Soil conditioner shall be a granular blend of humate and gypsum or approved equal, and shall contain 25% humic acids. It shall be free flowing, suitable for application with approved equipment and shall contain

the minimum available percentages of 7% calcium and 5% sulphur.

Agricultural grade gypsum shall be a (ca so₄ h₂O) calcium sulfate product - min 92%. 100% shall pass a 10 mesh screen, 92.5% shall pass a 100 mesh screen. Chemical reaction will remove sodium attached to soil particles. Gypsum also loosens heavy clay soils through electrochemical action. Control of dust during application is mandatory. Product shall be U.S. Gypsum, Domtar, Bandini or approved equivalent.

Iron sulfate shall be expressed as metallic - derived from sulfate - (FE SO₄ H₂O). Product shall contain a minimum analysis of 20.0% Ferrous Sulfate and Heptahydrate 99%, and shall be free flowing crystals in powder form. Iron is required for the formation of chlorophyll in plant cells and deters iron chlorosis symptoms of plants.

800-1.2.7 Herbicides and Pesticides

Add the following subsection:

Herbicides and pesticides shall be used in their appropriate applications with strict adherence to manufacturers' specifications and instructions.

The Contractor shall obtain approval for any and all pesticide and herbicide use in writing from the City. All pesticides and herbicides shall be applied only by a licensed applicator.

Pre-emergent herbicide for shrub and groundcover areas (planted from flats) shall be Treflan, Surflan, Eptan, or approved equivalent.

Post-emergent herbicide for all areas shall be Round Up, Diquat, Montar, or approved equivalent, except for areas where it may contact standing or running water.

All herbicides shall be selected for suitability for the specific uses required, and shall be applied by a licensed pesticide applicator.

800-1.3 Seed

Add the following paragraph:

Seed which has become wet, moldy, or otherwise damaged in transit will not be accepted.

800-1.4 Plants

800-1.4.1 General

Delete this entire subsection and substitute the following:

Contractor shall notify the City a minimum of 72 hours before each plant delivery so the City can schedule a review.

All plants shall have a growth habit normal to the species and shall be sound, healthy, vigorous and free from insect pests, plant diseases, sun scalds, fresh bark abrasions, excessive abrasions, or other objectionable disfigurements. All plants shall have normal well-developed branch systems, and vigorous and fibrous root systems which are

neither root- nor pot-bound and are free of kinked or girdling roots. No pruning shall be done prior to review of the plants by the City.

- a) **Quality and Size:** Plants shall be in accordance with the California State Department of Agriculture Regulations for Nursery Inspections of Rules and Grading. Nursery tags must be submitted to the City. Sizes shall conform to the dimensions indicated on the planting plan. All plants shall be reviewed and approved for acceptable size and quality by the City prior to planting.
- b) **Availability and Sourcing:** Within 7 days of award of contract for work in this section, the Contractor shall place orders for all plant material in sufficient time to reserve or grow the plants for the project. No substitutions will be allowed. If plants are not available, the Contractor shall have the specified species contract grown.

All native plants shall come from a reputable native plant nursery such as Recon Native Plants, Inc. (Contact: Patrick Montgomery, 619-423-2284), or approved equal. Provide nursery name and resume for review and approval prior to contract growing. The following requirements apply for all native plants:

- 1) All plants shall be grown under climatic conditions similar to those of the project site.
- 2) Amount of light, shade, or temperature shall not be artificially altered by lighting or by greenhouse cover for the purpose of altering plants natural habits.
- 3) All plants shall be grown in a native soil mix.
- 4) All plants shall be grown in low-peat or peat-free planting material.
- 5) All plants shall be grown in San Diego County.

When possible, all 36"-box and 24"-box trees shall be pre-selected by the City prior to order and delivery to the project site. Depending on the location of the nursery, the City will allow the Contractor to provide at least (2) digital photos of each tree for review by the City. Photos shall clearly show the entire tree, with clear unobstructed view of the tree trunk, branches and canopy. The City will review the photos at least twenty one (21) calendar days prior to scheduled delivery and installation of trees for review of the trees.

- c) **Quantities:** Plant quantities indicated on the drawings are for Contractor's convenience only. Quantities of all plant materials shall be furnished as needed to complete work as shown on the Plans.
- d) **Acceptability:** The City is the sole judge as to acceptability of each plant. Vigorous, healthy, well-proportioned plants are the intent of this specification. Plants which are even moderately "overgrown," or are showing signs of decline or lack of vigor are subject to rejection. The size of the plants will correspond with that normally expected for species and variety of commercially available nursery stock, or as specified in the special conditions or drawings. Plants larger in size than specified may be used with the approval of the City, but the use of larger plants will make no change in contract price. If the use of larger plants is

approved, the ball of earth and spread of roots for each plant shall be increased proportionately.

- e) **Rejection or Substitution:** The City reserves the right to reject any plant material found to be defective or not in conformance with plans and specifications. Plants shall be subject to inspection and approval or rejection at the project site at any time before or during progress of work, for size, variety, condition, latent defects, and injuries. All plants not conforming to the requirements herein specified shall be considered defective, and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site and replaced with new plants by the Contractor at his expense. Rejected plant material shall be replaced within one week of written notice, unless otherwise approved by the City.

Substitutions will not be permitted except if proof is submitted that any plant specified is not obtainable, then a proposal will be considered for use of the nearest equivalent size or variety and cost. All substitutions are subject to City's written approval.

- f) **Right To Changes:** The City reserves the right to change the species, variety, and/or sizes of plant material to be furnished, provided that the cost of such plant changes do not exceed the cost of plants in the original bid, and with the provision that the Contractor shall be notified, in writing, at least thirty (30) days before the planting operation has commenced.

800-1.4.2 Trees

Add the following paragraphs:

All trees shall be of the specified type and size as indicated on the Drawings, selected from high quality, well-shaped and proportioned Southern California-grown nursery container stock. Field grown stock grown in climatic regions which are different (as determined by the City) to those conditions found at the project site, shall have been acclimated to a climate similar to their intended locations prior to delivery and shall be accompanied by letter and/or certificate from the nursery that the plant materials are suitable for said locations or they will not be accepted.

All trees shall have grown in containers for sufficient time to permit full rooting within the container to bind the soil but not so long as to create a root bound condition. No container plants that have cracked or broken balls of earth, when taken from the container, shall be planted. No plants with damaged roots, broken root balls, or root bound, when taken from the container shall be planted.

All trees shall have a main leader branch and not have a co-dominant branching structure, unless the tree is intended to be multi-trunk.

All trees shall be free of weeds, native grasses, Bermuda grass and Kikuyu grass.

Trees sizes shall be shown on the drawings or specified herein. Trees sizing characteristics shall conform to the following table:

Size	Average Height	Trunk Diameter (6" above ground)	Root Ball Diameter (Min.)
24" Box	10' - 14'	1 ½" - 2 ½"	20" – 28"
36" Box	14' - 16'	2 ½" - 3 ½"	28" – 38"
48" Box	16' - 20'	3 ½" - 6"	42" – 46"

800-1.4.3 Shrubs

Add the following paragraphs:

All shrubs shall be of the specified type and size as indicated on the Drawings, selected from high quality, well-shaped and proportioned Southern California-grown nursery container stock. Field grown stock grown in climatic regions which are different (as determined by the City) to those conditions found at the project site, shall have been acclimated to a climate similar to their intended locations prior to delivery and shall be accompanied by letter and/or certificate from the nursery that the plant materials are suitable for said locations or they will not be accepted.

All shrubs shall have grown in containers for sufficient time to permit full rooting within the container to bind the soil but not so long as to create a root bound condition. No container plants that have cracked or broken balls of earth, when taken from the container, shall be planted. No plants with damaged roots, broken root balls, or root bound, when taken from the container shall be planted.

All shrubs shall be free of weeds, native grasses, Bermuda grass, and Kikuyu grass.

All shrubs shall be full and bushy to ground.

800-1.4.4 Flatted Plants

Add the following:

Flatted plants shall be healthy, vigorous, rooted cuttings grown in flats or 1 gallon cans until transplanting. The soil and spacing of the plants in the container shall ensure the minimum disturbance of the root system at time of transplanting.

800-1.4.5 Sod and Stolons (turf grass)

Delete this entire subsection and substitute the following:

Sod shall be fresh, clean, vigorous living sections of turf grass as designated in the contract documents. Sod shall be free of turf disease, insects or weeds and capable of healthy vigorous growth. Sod shall be Platinum TE Seashore Paspalum Sod by West Coast Turf, or approved equal, overseeded with 'Grand Slam', or 'Turfstar' perennial ryegrass at a rate of 5 lbs./1,000 square feet.

800-1.5 Headers, Stakes, and Ties

800-1.5.2 Headers and Stakes

Delete and replace with the following:

Headers shall be 2 inches x 6 inches solid core synthetic lumber. Header stock shall be supplied in lengths of at least 10 feet. Stakes for header boards shall be galvanized

steel and attached to headers with not less than 2 galvanized screws. Stakes shall be placed every 5 feet and every 3 feet on curves.

800-1.5.3 Tree Stakes

Delete this entire subsection and substitute the following:

Tree support stakes shall be lodge pole pine, 3" diameter, 10' long, with pointed end and be treated wood for direct contact with soil. Tree support stakes shall be straight and true with minimal warping. Split, bent or rotted tree stakes will not be accepted.

800-1.5.4 Tree Ties

Add the following subsection:

Tree ties shall be 36" long pre-manufactured combination of vinyl tubing and galvanized wire. Ties shall be "Hozewire" as manufactured by Villa Root Barrier or approved equal. Contact: www.villarootbarrier.com

Galvanized wire shall wrap tree stakes and contain one, 1-inch long, 9-gauge, galvanized fence staple to prevent hose wire from sliding down the tree stake. Fence staple shall be secured prior to installing tree stake to prevent stake damage during hammering in the vertical installed position.

800-1.6 Disintegrated Granite

Add the following subsection:

Disintegrated granite shall conform to the requirements of Section 200-2.7 of these specifications.

800-1.7 Landscape Boulders

Add the following subsection:

All boulders shall be 'Baja Cresta Grey' angular boulders supplied by Decorative Stone Solutions (800-699-1978) or approved equal. Contractor shall submit two (2) 6" x 6" stone samples to the City prior to delivery of the material to the site.

There shall be three sizes of boulders as designated on the Plans. Boulders 'A' shall be 3.5'-4.5' diameter. Boulders 'B' shall be 2.5'-3.5' diameter. Boulders 'C' shall be 1.5'-2.5' diameter.

Boulders shall be solid, natural occurring stone and cleaned free from drilled holes, marks and/ or scars caused by construction equipment.

800-1.8 Rock Cobble

Add the following subsection:

All cobbles shall be naturally occurring earthtone colors, rounded river rock stones, similar to 'Malibu' Cobble, available from Decorative Stone Solutions (800-699-1978), placed at a minimum depth of 6 inches and laid out per the detail in the Plans. There shall be two sizes of cobble as designated on the Plans. Cobbles shall be solid and

cleaned free from marks or scars caused by construction equipment, with the majority of cobble in unbroken, rounded condition.

Contractor shall submit a 5-gallon bucket sized sample to the City for color and quality inspection and approval prior to order and installation of cobbles in cobble stream bed.

800-1.9 Root Barrier

Add the following subsection:

Root barrier shall be 24" deep 'UB 24-2' plastic root control barrier manufactured by DeepRoot (800-458-7668) or approved equal.

800-1.10 Tree Protection Fencing

Add the following subsection:

Tree protection fencing shall consist of 4' high orange mesh barrier fencing by Conwed or approved equal, securely attached to steel or pressure treated wood posts as detailed on the Plans. The fencing shall be attached to the posts with a minimum of four (4) nylon-locking ties evenly placed at each post.

Signs: Tree protection signage shall be white or yellow weatherproof material, 8.5 inch by 11 inch minimum, with black letter text reading, "Tree Protection Zone – Keep Out." Affix signs to fencing with nylon locking ties.

800-2 IRRIGATION SYSTEM MATERIALS

800-2.1 Pipe and Fittings

800-2.1.1 General

Add the following:

All irrigation system materials for recycled water shall be color-coded purple per AWWA Guidelines and Section 116815 of the California Health and Safety Code.

All recycled irrigation pipes shall be stenciled with the warning, "NON-POTABLE OR RECYCLED WATER", color-coded (purple) and laid with warning tape and stenciling oriented toward the top of the trench.

800-2.1.2 Steel Pipe

Delete this subsection and substitute with the following:

Steel pipe is not permitted.

800-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings

Plastic pipe for pipelines 1.5-inches or smaller shall be Schedule 40 PVC, IPS pipe. Plastic pipe for pipelines 2-inches or larger shall be Class 315 PVC, IPS pipe. Schedule 80 pipe shall be used for all threaded connections, risers, and connections to any valve type.

Fittings for all mainlines piping 3-inches or smaller shall be Schedule 80. Fittings for mainlines 4-inches and larger shall contain restrained joints at all bends, tees, and valves.

All threaded fittings shall receive 2 wraps of teflon tape prior to connection.

800-2.1.5 Copper Pipe

Add the following paragraph:

Type "K" copper pipe shall be used for piping between water meters and new pressure regulation / wye strainer assembly.

800-2.1.6 Ductile Iron Pipe

Add the following subsection:

Ductile Iron Pipe and fittings shall conform to Section 209-1 with the following requirements. Potable water installations shall contain cement-mortar "Double Thickness" interior lining for all pipe and fittings. Recycled water applications shall contain ceramic epoxy interior lining and fusion bonded epoxy coating for exterior coating in conformance to Section 212-12 for all piping and fittings. The color for all ductile iron piping and fittings for potable water systems shall be blue and purple for recycled water systems.

800-2.1.7 Drip Line Pipe

Add the following subsection:

Drip line pipe shall be polyethylene, pressure compensating (10psi to 60psi), self-flushing, UV resistant, contain anti-siphon emitters with copper oxide coating to provide root intrusion deterrence. Pipe shall have an internal diameter of 0.5-inches and contain a minimum wall thickness of 0.05". Each emitter shall have a flow rate of 0.6 gpm and spaced every 12-inches along the drip line unless otherwise shown on the irrigation drawings. Drip line pipe shall be colored purple for recycled water irrigation applications. Drip line pipe manufacturer shall have a 10-year guarantee from environmental hazards.

800-2.1.8 Restrained Joints & Fittings

Add the following subsection:

Restrained joints and fittings are required for all pipelines 4-inches in diameter or greater and shall be provided at all bends, tees, valves, reducers, and dead ends. A restrained joint shall be provided at the next nearest pipe joint at dead end locations. Restrained Joints shall be ductile iron, Class 350 per AWWA C153, with fusion bonded epoxy coating, inside and out, 10-mil minimum thickness. All hardware for restrained joints and fitting shall be stainless steel grade 316. Restrained joints shall be protected with polyethylene encasement.

800-2.1.9 Warning / Identification Tape

Add the following subsection:

Warning/identification tape shall be provided for all irrigation mainlines. Tape shall be an inert, non-metallic plastic film formulated for prolonged underground use that will not degrade when exposed to alkalis, acids and other destructive substances commonly found in soil. Tape shall be puncture-resistant and shall have an elongation of two times its original length before parting.

Tape shall be 3-inches wide 0.102mm or 0.04" or 4-mil thick and contain the printed message and color as shown below:

Potable Water:	"Caution: Recycled Waterline Buried Below", Color: Blue.
Recycled Water:	"Caution: Waterline Buried Below", Color: Purple.
Electric/Control Wires:	"Caution Electric Line Buried Below", Color: Red

800-2.1.10 Tracer Wire

Add the following subsection:

A tracer wire shall be provided along all mainlines. Tracer wire shall be #14 AWG solid copper wire with cross-linked polyethylene insulation. The insulation shall be yellow in color. Wire splices (at pipe tees, crosses) shall be made using a direct bury silicone-filled capsule tube with standard wire nut or silicone filled wire nut connectors of the appropriate size. Tracer wire shall be connected to the mainline every 10-feet with 2 wraps of 2-inch wide polyethylene or vinyl adhesive tape or with ¼-inch wide plastic tie straps. Tracer wire shall be connected with to mainline within 12-inches from each splice connector with 1/4-inch plastic tie strips to ensure splices cannot be pulled apart.

800-2.1.11 Polyethylene Encasement

Add the following subsection:

Polyethylene encasement shall be provided at all restrained joints and valves with ductile iron fittings and non-solvent weld joints. Polyethylene wrap and sleeves shall be a minimum of 8 mil thick linear low-density polyethylene film in accordance with AWWA C105. All items to receive polyethylene encasement shall contain 2 full wraps of polyethylene. Polyethylene wrap and sleeves shall be clear for use with potable water and purple for use with recycled water. Polyethylene encasement shall be secured with 2-inch wide polyethylene or vinyl adhesive tape or with ¼-inch plastic tie strips.

800-2.2 Valves and Valve Boxes

800-2.2.2 Gate Valves

Delete and replace with the following:

Gate valves are not permitted for valves 2-1/2 inches or smaller.

Gate valves shall be 250 PSI, non-rising stem, with bolted bonnet, resilient wedge, fusion bonded epoxy coated, and have square operating nut. Gate valves shall meet the requirement of AWWA C509 and C515.

800-2.2.4 Remote Control Valves

Delete this entire subsection and substitute the following:

Remote control valves shall be operated electrically. Unless otherwise specified, they shall be of glass-filled nylon construction, with fabric-reinforced EPDM diaphragm and EPDM seat surfaces, equipped with flow control adjustment and capability for manual operation. They shall be readily disassembled for servicing.

All recycled water control valves shall be tagged with identification tags. Tags shall be weatherproof plastic (3"x4"), purple in color with the words "WARNING RECYCLED WATER – DO NOT DRINK" imprinted on one side and "AVISO – AQUA IMPURA – NO TOMAR" on the other side. Imprinting shall be permanent and black in color.

800-2.2.6 Quick-Coupling Valves and Assemblies

Delete this entire subsection and substitute the following:

Quick coupling valves shall be locking, two-piece brass or bronze with built in flow control, self closing valve, rubber cover, and supplied in one inch inlet size unless otherwise specified.

Quick coupling valves shall be of a type designed for the use with recycled water systems with locking purple caps for recycled water systems. Recycled water quick coupling valves shall contain ACME threads or of a thread pattern different from potable water quick couplers as approved by the Engineer.

Quick coupling valves shall be clasped with 2 stainless steel hose clamps to a ¾" diameter galvanized rod not less than 2 feet long encapsulated in .5 cubic feet of concrete to prevent rotation during operation.

Quick coupling valve assembly shall contain a 1-inch diameter globe valve to allow for full flow control of quick coupling valve when in use. Quick Coupling valve and globe valve shall be installed in a single rectangular valve box.

800-2.2.7 Valve Boxes

Delete this subsection and substitute the following:

All valve boxes shall be rectangular concrete valve boxes with stainless steel bolt-down cover or approved equal. All recycled water valve box lids shall be purple in color.

The Contractor shall paint the identification number of the valve and the controller clock on the cover of the valve box with using 2" high stenciled letters, and 2 coats of metal grade paint. All irrigation boxes shall be painted to identify the irrigation component within the box.

Valve boxes shall be sized accordingly to allow wires in pull boxes to be loose and maintain a three inch (3") clearance from the lid.

The Controller and Station number of each valve shall be identified with a plastic valve number label attached to the solenoid wire for each valve.

800-2.2.8 Ball Valve

Add the following subsection:

Ball valves below ground shall be schedule 80, blocked true union ball valves, full port, 150 PSI working pressure. Ball valves are not permitted for valves greater than 2-1/2 inches.

Ball valves for above ground installations shall be bronze, lead free, full port, 150 PSI working pressure and contain threaded connections.

800-2.2.9 Master Valve

Add the following subsection:

Master valve shall be brass or bronze and sized as shown on the drawings. Master valve shall be the normally closed type unless otherwise shown. Master valve conductors shall be installed within a 1-1/4" diameter conduit from the master valve to the controller.

800-2.2.10 Pressure Reducing Valve

Add the following subsection:

Pressure reducing valve shall be brass or bronze and sized as shown on the drawings. Pressure reducing valves shall be rated at 200 psi minimum and contain threaded end connection allowing for removal and field servicing. Pressure reducing valves for potable water irrigation system shall be lead free.

Pressure reducing valve shall be installed with a wye strainer within a protection cage per Section 800-2.7.

800-2.3 Backflow Preventer Assemblies

Backflow preventer assemblies shall be the reduced pressure zone type, approved by the Padre Dam Municipal Water District. Backflow preventer assembly shall include brass/bronze wye strainer installed upstream of backflow preventer. Two threaded brass/bronze unions shall be installed with the backflow preventer assembly to allow for removal of the backflow preventer and wye strainer. A brass/bronze ball valve shall be provide upstream of the first union of the backflow assembly. All materials for the backflow assembly and components shall be certified lead free.

Backflow Preventer assembly shall contain a 4" thick concrete pad with #3 rebar spaced at 6-inches O.C. both ways and include a locking stainless steel hinge type protection cage per Section 800-2.7.

800-2.4 Sprinkler Equipment

Delete this entire subsection and substitute the following:

Sprinkler heads, bubbler heads, and spray nozzles shall be of the types and sizes shown on the Plans or approved equivalent. Equipment of one type and flow characteristic shall be from the same manufacturer and all equipment shall bear the manufacturer's name and identification code in a position where they can be identified

in the installed position. All recycled water sprinkler heads, drain grates, and other related recycled water irrigation items shall be purple for use with reclaimed water.

Fixed heads, shrubbery heads and bubbler heads shall have adjustable radius control.

Drip irrigation equipment shall be as noted on the Plans or approved equal. All equipment shall be compatible components. All emitters shall be matched precipitation at rates per legend.

All materials and equipment used in all irrigation work shall be new and without flaws or defects and of quality and performance as specified. Prior to installation of any irrigation work, the Contractor shall submit, for approval by the City, five copies, minimum, of a list of all materials and equipment (s)he proposes to use. Should the Contractor propose to use materials or equipment other than those listed as approved, (s)he shall submit in writing to the City a request to deviate from the approved list. Samples of the materials or equipment shall accompany the request to assist the evaluation of the proposal.

800-2.5 Anti-drain Check Valves

Add the following subsection:

Check valves shall be installed as indicated on plans. The anti-drain valve (check valve) shall be the same diameter size as the riser and shall be integrated into the riser assembly (under at head). Valve shall be "Valcon ADV-XS", Hunter, or an approved equivalent.

Anti-drain check valves shall be installed on all sprinkler equipment at the following stations due to varying slopes / grades of the site:

Controller A: Valves A-1 through A-8, A-16 through A-55, A-77 through A-81

Controller B: Valves B-51 through B-69

800-2.6 Wye Strainers

Wye strainers shall be bronze, lead free and contain threaded connections. Wye strainer shall contain stainless steel grade 304 mesh/perforated screens. #20 mesh screen shall be required for 3/4-inch to 2-1/2-inch diameter wye strainers. 3/64-inch perforated screen is required for 3-inch diameter or larger wye strainers.

Wye strainer shall be installed within a protection cage per Section 800-2.7.

800-2.7 Protection Cage

Protection cage for backflow preventer assemblies, pressure reducing valves, and wye strainers shall be stainless steel. Protection cages shall be locking fully hinging to provide for full access to all components. A single hinging door is not acceptable. Structural tube members, frame members, expanded metal and/or wire mesh shall be 1/8" thick minimum. Cages longer than 36-inches shall be dual hinging type. Protection cage shall be installed on a 4-inch thick concrete slab and contain #3 reinforcing steel spaced at 12" on center both ways. All anchoring hardware shall be vandal resistant in accordance to Section 209-6

800-2.8 Low Flow Irrigation Equipment

Add the following subsection:

Drip irrigation equipment shall be products as indicated on the drawings.

800-3 ELECTRICAL MATERIALS

800-3.2 Conduit and Conductors

Add the following:

800-3.2.1 Conduit

Add the following:

Underground conduit shall be PVC schedule 40 conforming to section 700-3.5. The minimum conduit size shall be 1-inch. Conduit shall be sized such that it does not exceed 30% full with all conductors. Conduit sweeps shall be used for all bends and contain bell ends.

800-3.2.2 Conductors

Add the following paragraphs:

800-3.2.2.1 Line Voltage Conductors

Line voltage conductors shall be THWN, 600-volt insulation rating, conforming to ASTM D2219. Line voltage conductors shall be #12 AWG minimum or larger as required to provide electrical service to the irrigation controller. Each controller shall have a separate electrical service and conductors through a separate 1-1/4" conduit. No line voltage conductors (110/120 Volt) shall pass from controller cabinet to cabinet.

800-3.2.2.2 Control Conductors (2-Wire Systems)

Low voltage control conductors for 2-wire systems shall be 12 AWG or larger, direct burial, 2-conductor solid copper jacketed decoder cable as manufactured by Paige, P7354D or equal. Internal conductor jacket shall be red and blue. A spare 2-wire control conductors shall be provided for all 2-wire systems. 2-wire control conductors shall be installed within a 1-1/4" schedule 40 conduit. A pull box shall be provided every 250 to 300 feet along 2-wire control conductors.

Control conductors for 2-wire systems shall be color coded as required below:

Recycled Water Systems	Purple
------------------------	--------

For multiple controller installations, a separate color shall be provided for each individual controller as approved by the Engineer.

800-3.2.2.3 Communication Conductor Cable

Communication conductor cable for communication between irrigation controllers shall be a underground communication cable, 4 conductor, shielded, 18 AWG, 2 pair with drain wire as manufactured by Paige, P7171D or approved equal. Communication

conductors shall be installed within a 1-1/4inch conduit and connect directly to the irrigation controller foundations. 3-feet of spare cable shall be provided at irrigation controllers and shall be neatly wrapped and secured with ¼-inch nylon cable ties.

Communication conductor cable for communication from irrigation controller to access hub or phone/internet service point shall be Cat 6e shielded Ethernet cable. Ethernet terminal ends shall be RJ45 connectors with gold connectors and contain strain relief boots. 3-feet of spare cable shall be provided at the irrigation controller and 20-feet of spare cable shall be provided at the access hub. All spare wire shall be neatly wrapped and secured with ¼-inch wide nylon cable ties.

800-3.2.2.4 Rain Sensor Conductor Cabling

Rain sensor conductor cable shall be an underground communication cable, 4 conductor, shielded, 18 AWG, 2 pair with drain wire as manufactured by Paige, P7171D or approved equal. Rain sensor cabling shall be installed within a 1-inch conduit and from the rain sensor location to irrigation controller foundations. 3-feet of spare cable shall be provided at irrigation controller and shall be neatly wrapped and secured with ¼-inch nylon cable ties.

800-3.2.2.3 ET Gauge Conductors

ET Gauge conductor cable shall be an underground communication cable, 4 conductor, shielded, 18 AWG, 2 pair with drain wire as manufactured by Paige, P7171D or approved equal. Rain sensor cabling shall be installed within a 1-inch conduit and from the ET Gauge location to irrigation controller foundations. 3-feet of spare cable shall be provided at irrigation controller and shall be neatly wrapped and secured with ¼-inch nylon cable ties.

800-3.2.3 Wire Connectors

Add the following subsection:

Each and every wire splice shall be soldered (using 60-40 solder) together, then encased in the waterproofed epoxy 3M™ Scotchcast™ Connector Sealing Pack 3570G-N with wire nuts. Wire splices shall be made only in valve or pull boxes.

800-3.2.4 Conductor Labels

Add the following subsection:

Conductors shall be labeled at all pull boxes, junction boxes, and controllers to provide for field identification. Conductors shall be labeled at all decoder locations for 2-wire irrigation systems. Labels shall be water proof type and labeled as provided below:

Communication:	COMM
Master Valve:	MV
ET Gauge	ETG
Flow Meter:	FM
Rain Sensor:	RS
2-Wire:	2-WIRE
Spare:	SPARE

800-3.3 Controller Unit
Add the following:

Controllers shall be two-wire controllers. Provide one power on-off switch for each controller and 15 amp weather resistant GFCI duplex outlet and weather resistant metal cover. Outdoor models shall be installed in locking stainless steel enclosures. Controller unit shall be installed on a standalone concrete foundation.

800-3.3.1 Rain Sensing Device
Add the following subsection:

Controllers shall be equipped with rain measuring device, type as indicated on the plans.

800-3.4 Flow Meter
Add the following subsection:

Flow meter shall be the type and size as shown on the Plans. The minimum upstream and downstream pipe length and pipe diameter leading to and from the flow meter shall be installed in accordance to the flow meter manufacturer's requirements in order to ensure proper flow measurements. Flow meter conductors shall be installed within a 1-1/4-inch conduit from the flow meter to the irrigation controller cabinet.

800-3.5 Decoders
Add the following subsection:

800-3.5.1 General
Add the following subsection:

Decoders shall be provided for all 2-wire irrigation systems. Decoders shall be of the type required by the irrigation controller manufacturer and direct burial type. Connection of decoder wires to control wires, remote control wires, master valve wires, flow meter wires and grounding wires shall be made with water proof wire connectors.

800-3.5.2 Master Valve / Flow Sensor Decoder
Add the following subsection:

Sensor decoders shall be as indicated on the Plans as manufactured by Calsense, or approved equal. The sensor decoder shall be a fully programmable, direct-bury decoder that provides interface between controller and flow and moisture sensors.
Install with a maximum distance of 100 feet from decoder to valve.

800-3.5.3 Line Decoders
Add the following subsection:

Line decoders shall be as indicated on the Plans as manufactured by Calsense, or approved equal. The decoder turns each valve on and off independently and can operate two solenoid valves. Line decoders shall operate at a maximum voltage of 24vAC and a maximum current of 1200mA.

800-3.6 ET Gage

Add the following subsection:

ET Gage shall be the type as shown on the Plans. ET Gage conductors shall be installed within a 1-1/4 inch conduit from the ET gage to the controller cabinet. Control wires shall be Hunter 'Regency' two-wire cable with 3M Scotchcast 3570G-N connectors w/wire nut only.

800-3.6 Grounding

Add the following subsection:

A grounding rod, grounding wire and grounding connector shall be provided at the following locations: At each irrigation controller, every 300-feet along a 2-wire path and the end of any 2-wire path.

Grounding rod shall be 5/8-inch diameter by 8' long copper grounding rod. A #4 AWG grounding wire, green in color shall be connected to the grounding rod with a 5/8" bronze high-strength corrosion resistant connector U.L. listed for direct burial and connected to the irrigation controller and/or decoder wire connection. Bolts for connectors shall be stainless steel.

Grounding rod shall be installed inside the base of irrigation controllers or terminate into a pull boxes/junction boxes. Pull box shall have vandal resistant bolt in accordance to Section 209-6.

800-3.7 Pull Boxes

Add the following:

Pull boxes for irrigation electrical power, control wire splicing, and 2-wire splicing, shall be No. 3-1/2 polymer concrete with locking cover labeled "Irrigation". Pull box lids shall be security lids as manufactured by MRsteel/Ameri-Fab, contact www.mrsteel.com. Locking bolts pattern shall match existing City of Santee security cover lock.

SECTION 801 - INSTALLATION

801-2 EARTHWORK AND TOPSOIL PLACEMENT

801-2.2 Topsoil Preparation and Conditioning

801-2.2.1 General

Delete this entire subsection and substitute the following:

The type and thickness of topsoil for specific areas of plantings shall be as specified in Section 800-1.1 "Topsoil" for turf and shrub areas, respectively.

Topsoil shall be materials found at the top 15" of existing soils excavated from areas of proposed roadway, building, or cut excavation areas and placed in top layers of landscape planting areas for amending in place. Salvaged topsoils may be stockpiled, amended and placed in landscape planting areas at the Contractor's discretion, however shall be covered with impermeable tarp and appropriate BMPs provided. Contractor shall not use subsurface soils from the deepest parts of the excavation unless specifically approved by the City.

In cut excavation areas, landscape planting areas shall be over-excavated and topsoil placed in depths compliant with Section 800-1.1 "Topsoil" for turf and shrub areas, respectively.

Planting areas shall be free of weeds and other extraneous materials to a depth of 12 inches below finished grade before topsoil work. Soil shall not be worked when it is so wet or so dry as to cause excessive compaction or the forming of hard clods or dust. After compaction, topsoil shall be within +/- 0.1 foot of finish grade.

Once rough grading has been accomplished, a minimum of (20) twenty soil samples from different representative areas of the site shall be taken from areas approved by the City and a soil analysis performed to determine nutrient and mineral content, compositional characteristics, permeability, and existence of possible toxic elements. Soil test shall be conducted by a reputable agricultural soils laboratory approved by City. Analysis shall include recommendations for amending or correcting soil conditions. Results of soil analysis shall be received by City thirty (30) days prior to amending or soil and ordering amendments.

801-2.2.1.1 Weed Eradication

Soil preparation and planting shall not be allowed until all weeds are removed from within the limits of planting areas as indicated on the Plans.

The Contractor's labor shall possess demonstrated ability to identify the difference between desirable native species and invasive weeds.

Weed eradication for entire project site. After irrigation installation, but before planting installation, the Contractor shall irrigate the entire project site three (3) to four (4) times over seven (7) to ten (10) days to germinate existing weed seeds. Allow weed seeds to grow until they reach a maximum height of two to three inches (2" - 3"). A post-

emergent herbicide shall then be applied per manufacturer's instructions. Avoid contact of herbicide with the existing plants to remain.

All herbicides used shall be compatible with use in the vicinity of water and shall be applied in accordance with the label specifications by personnel holding a valid pesticide and herbicide applicator's license. Herbicide use shall be approved by the City prior to application. Rodeo herbicide, or approved equal shall be used in or near areas of standing water or streams since it is non-toxic to aquatic organisms and should be applied only by a licensed pest control applicator in accordance with the manufacturer's instructions.

Pulled weeds and debris shall be transported and disposed of properly offsite immediately using approved methods to prevent any seed dispersal on the site. All weedy species should be cleared approximately two weeks following herbicide application.

The City shall inspect the site prior to planting and during revegetation. The planting of hydroseed shall be conducted on a weed free site.

Manual weed eradication shall continue during planting and during the plant establishment period and maintenance period; no herbicides shall be used following the initial weed eradication unless authorized by the City. Weed seedlings and sprouts shall be removed before attaining 12-inches in height and/or before producing seed.

Weed eradication for shrub areas and groundcover areas (planted from flats). Three (3) to four (4) days after these plants have been installed; the Contractor shall apply the pre-emergent herbicide per manufacturer's specifications and instructions.

801-2.2.2 Fertilizing and Conditioning Procedures

Delete third paragraph of this subsection and replace with the following:

After spreading, the fertilizing and conditioning materials shall be cultivated into the upper 15 inches of soil by suitable equipment operated in at least 2 directions at right angles. The resulting soil shall be in a friable condition.

Once rough grading has been accomplished, a minimum of (8) eight soil samples from different representative areas of the site shall be taken from areas approved by the City and a soil analysis performed to determine nutrient and mineral content, compositional characteristics, permeability, and existence of possible toxic elements. Soil test shall be conducted by a reputable agricultural soils laboratory approved by City. Analysis shall include recommendations for amending or correcting soil conditions. Results of soil analysis shall be received by City thirty (30) days prior to amending or soil and ordering amendments.

801-2.3 Finish Grading

Add the following:

Finish grading shall ensure positive drainage from the site. Surface drainage shall be away from all building foundations.

801-3 BIORETENTION SOIL MEDIA
Add the following Subsection:

801-3.1 General

Bioretention Soil Media (BSM) is intended to filter storm water and support plant growth while minimizing the leaching of potential pollutants. This specification includes requirements that apply to BSM used in storm water treatment BMPs, including bioretention and biofiltration.

801-3.2 Blended BSM Criteria and Testing Requirements

801-3.2.1 General

Blended BSM shall consist of 60% to 80% by volume sand, up to 20% by volume topsoil, and up to 20% by volume compost. Sand, Topsoil, and Compost used in BSM shall conform to requirements listed in Sections 801-3.3, 801-3.4, and 801-3.5, respectively. For bioretention/biofiltration with outlet-controlled designs, it is likely that topsoil will need to be omitted or reduced to achieve permeability targets.

Alternative mix components and proportions may be utilized, provided that the whole blended mix conforms to whole BSM criteria, detailed in Section 801-3.2.3 through 801-3.2.5. Alternative mix designs may include alternative proportions and/or alternative organic amendments. Alternative mixes are subject to approval by the reviewing jurisdiction. Alternative mixes that use an alternative organic component (rather than compost) may be necessary when BMPs are installed in areas with nitrogen or phosphorus impaired receiving waters in order to meet more stringent BSM quality requirements as detailed in Section 801-3.2.5.

801-3.2.2 Testing and Submittals

At least 30 days prior to ordering materials, the Contractor shall submit the following to the local jurisdiction reviewer (upon request): source/supplier of BSM, location of source/supplier, a physical sample of the BSM, whole BSM test results from a third party independent laboratory, test results for individual component materials as required, and description of proposed methods and schedule for mixing, delivery, and placement of BSM. The test results shall be no older than 120 days and shall accurately represent the materials and feed stocks that are currently available from the supplier.

Test results shall demonstrate conformance to agronomic suitability and hydraulic suitability criteria listed in Sections 803-2.3 and 803-2.4, respectively. BSM for use in BMPs in areas with water quality impairments in receiving waters shall also comply with applicable Chemical Suitability criteria in Section 801-3.2.5. No delivery, placement, or planting of BSM shall begin until test results confirm the suitability of the BSM. The Contractor shall submit a written request for approval which shall be accompanied by written analysis results from a written report of a testing agency. The testing agency must be registered by the State for agronomic soil evaluation laboratory test fees shall be paid for by the Contractor.

801-3.2.3 Agronomic Suitability

The BSM shall conform to the requirements herein to support plant growth. BSM which requires amending to comply with the below specifications shall be uniformly blended and tested in its blended state prior to testing and delivery.

- a) pH range shall be between 6.0-8.5.
- b) Salinity shall be between 0.5 and 3.0 millimho/cm (as measure by electrical conductivity)
- c) Sodium absorption ratio (SAR) shall be less than 5.0
- d) Chloride shall be less than 800 ppm.
- e) Cation exchange capacity shall be greater than 10 meq/100 g.
- f) Organic matter shall be between 2 and 5%.
- g) Carbon:Nitrogen ratio shall be between 12 and 40 (15 to 40 preferred).

Textural class fraction shall adhere to limits in Table 801-3.2.1, as determined by ASTM Method D422 or an approved alternative method:

TABLE 801-3.2.3

Textural Class (ASTM D422)	Size Range	Mass Fraction (percent)
Gravel	Larger than 2 mm	0 to 25 of total sample
Clay	Smaller than 0.005 mm	0 to 5 of non-gravel fraction

Test results shall show the following information:

- a) Date of testing
- b) Project name, contractor name, and source of materials and supplier name
- c) Copies of all testing reports including, at a minimum, analytical results sufficient to confirm compliance with all requirements listed in this section.

801-3.2.4 Hydraulic Suitability

BSM shall meet the have appropriate hydraulic properties for filtering storm water. The BSM shall conform to the requirements herein to support plant growth. BSM which requires amending, shall be uniformly blended and tested in its blended state prior to testing and delivery.

801-3.2.4.1 Testing

The saturated hydraulic conductivity of the whole BSM shall be measured according to the method detailed in the measurement of hydraulic conductivity (USDA Handbook 60, method 34b), commonly available as part of standard agronomic soil evaluation, or ASTM D24234 Permeability of Granular Soils (at approximately 85% relative compaction Standard Proctor, ASTM D698). BSM shall conform to hydraulic criteria associated with the BMP design configuration that best applies to the facility where the BSM will be installed (Section 801-3.2.4.2 or 801-3.2.4.3).

801-3.2.4.2 Systems with Unrestricted Underdrain System (i.e., media control)

For systems with underdrains that are not restricted, the BSM shall meet the minimum and maximum measured hydraulic conductivity found in Table 801-3.2.4 to ensure adequate flow rate through the BMP and longevity of the system but reduce excessive velocities through the media. In all cases, an upturned elbow system on the underdrain, measuring 9 to 12 inches above the invert of the underdrain, should be used to control velocities in the underdrain pipe and reduce potential for solid migration through the system.

801-3.2.4.3 Systems with Restricted Underdrain System (i.e., outlet control)

For systems in which the flow rate of water through the media is controlled via an outlet control device (e.g., orifice or valve) affixed to the outlet of the underdrain system, the hydraulic conductivity of the media should meet the requirements in Table 801-3.2.4 and the outlet control device should control the flow rate to between 5 and 12 inches per hour. This configuration reduces the sensitivity of system performance to the hydraulic conductivity, compaction, and clogging of the material, reduces the likelihood of preferential flow through media, and allows more precise design and control of system flow rates. For these reasons, outlet control should be considered the preferred design option over unrestricted underdrain systems.

801-3.2.4.4 Systems without Underdrains

For systems without underdrains, the BSM shall have a hydraulic conductivity of at least 5 inches per hour, or at least 2 times higher than the design infiltration rate of the underlying soil, whichever is greater.

Table 801-3.2.4

Hydraulic Conductivity Requirements		
Underdrain System	Minimum (in/hr)	Maximum (in/hr)
Unrestricted (media control)	8	24
Restricted (outlet control) Preferred Design Option.	20	80

801-3.2.5 Chemical Suitability for Areas Draining to Impaired Receiving Waters

801-3.2.5.1 General

The chemical suitability criteria listed in this section do not apply to systems without underdrains, unless groundwater is impaired or susceptible to nutrient contamination. Limits for a given parameter only apply if that parameter is associated with a water quality impairment, priority water quality condition, and/or TMDL in the receiving water. Limits may be waived at the discretion of the reviewing jurisdiction if it is determined by the jurisdiction that it is unreasonable to meet the specification using locally-available materials (available within 100 miles).

801-3.2.5.2 Testing

Potential for pollutant leaching shall be assessed using either the Saturated Media Extract Method (aka, Saturation Extract) that is commonly performed by agronomic laboratories or the Synthetic Precipitation Leaching Procedure (SPLP) (EPA SW-846, Method 1312). If the saturation extract method is used, samples may be rinsed with up to five pore volumes before collecting extract for analysis.

801-3.2.5.3 BSM Limits in Areas Draining to Impaired Receiving Waters

The limits in this section are in terms of the concentration of a parameter in water that has been contacted with the BSM.

Table 801-3.2.5.3

Applicable Pollutant(s)	Saturation Extract or SPLP Criteria
Phosphorus*	< 1 mg/L
Zinc	< 1 mg/L
Copper	< 0.04 mg/L
Lead	< 0.025 mg/L
Arsenic	< 0.02 mg/L
Cadmium	< 0.01 mg/L
Mercury	< 0.01 mg/L
Selenium	< 0.01 mg/L

801-3.2.5.4 Alternative BSM for Reduced Phosphorus Leaching

In areas with impaired receiving waters, alternative BSM should be considered, especially if receiving waters are phosphorus impaired. BSM with 20% compost may result in phosphorus leaching and soluble phosphorus test results in excess of the 1 mg/L limit presented in Table 801-3.2.5.3. Alternative organic amendments, such as coco coir pith and/or composted wood products, in place of compost should be considered in these areas. Sand and soil components with higher levels of iron and aluminum should also be considered to limit the solubility of phosphorus.

801-3.2.5.5 Nitrogen Impaired Receiving Waters

In areas with a downstream water quality impairment or TMDL for nitrogen, a combination of BSM composition and BMP design shall be used to reduce the potential for nitrate leaching from BMPs.

- BSM: The C:N ratio of BSM shall be between 15 and 40 to reduce the potential for nitrate leaching.
- BMP design: BMPs shall be designed to either enhance infiltration into underlying soils or with internal water storage to promote reduction of nitrogen:
 - If a BMP is installed with a liner, the BMP must include an internal saturated zone, consisting of at least an 18-inch thick layer of gravel, to enhance denitrification.
 - If a BMP does not include a liner, it must be installed with a retention zone below the underdrain discharge elevation, consisting of at least an 18-inch thick layer of gravel, to enhance infiltration into underlying soils.

801-3.3 Sand for BSM

801-3.3.1 General

Sand used in BSM should preferably be washed prior to delivery. If sand is not washed it must still meet sieve analysis requirements in Table 1.

801-3.3.2 Gradation Limits

A sieve analysis shall be performed in accordance with California Test 202, ASTM D 422, or approved equivalent method to demonstrate compliance with the gradation limits shown in Table 801-3.3.2. Fines passing the No. 200 sieve shall be non-plastic.

TABLE 801-3.3.2

Percentage Passing Sieve (by weight)		
Sieve Size (ASTM D422)	Minimum	Maximum
3/8 inch	100	100
#4	90	100
#8	70	100
#16	40	95
#30	15	70
#40	5	55
#100	0	15
#200	0	5

801-3.4 Topsoil for BSM

801-3.4.1 General

Topsoil shall be free of hazardous materials and shall be consistent with a common definition of topsoil. Decomposed granite and derivatives of decomposed granite are not considered to be topsoil for the purpose of this specification.

801-3.4.2 Textural Class

Topsoil shall be classified as a sandy loam or a loamy sand according to the US Department of Agriculture soil classification system. In addition, a textural class analysis shall be performed in accordance with ASTM D422, or an approved alternative method to demonstrate compliance with the gradation limits in Table 801-3.4.2.

Table 801-3.4.2

Textural Class (ASTM D422)	Size Range	Mass Fraction (percent)
Gravel	Larger than 2 mm	0 to 25 of total sample
Clay	Smaller than 0.005 mm	0 to 15 of non-gravel fraction

801-3.5 Compost for BSM

Compost shall be produced at a facility inspected and regulated by the local enforcement agency for CalRecycle. Compost should also preferably be certified by the U.S. Composting Council's Seal of Testing Assurance Program (USCC STA) or an approved equivalent program. Compost shall not be produced from biosolids feedstock.

801-3.5.1 General

801-3.5.1.1 Gradation limits

A sieve analysis shall be performed in accordance with ASTM D 422, or approved equivalent method to demonstrate compliance with the gradation limits show in Table 801-3.5.1.1.

Table 801-3.5.1.1

Sieve Size (ASTM D422)	Percent Passing Sieve (by weight)
1/2"	97 to 100
2 mm	40 to 90

801-3.5.1.2 Material Content

Organic Material Content shall be 35% to 100% by dry weight and moisture shall be 25% to 60% wet weight basis. Physical contaminants (manmade inert materials) shall not exceed 1% by dry weight.

801-3.5.2 Compost Testing

Compost shall meet the following requirements as demonstrated through standard agronomic testing methods:

a) Carbon to nitrogen (C:N) ratio. C:N shall be between 15:1 and 40:1, preferably above 20:1 to reduce the potential for nitrogen leaching/washout.

b) pH. pH shall be between 6.0 and 8.5.

c) Soluble Salt Concentration. Soluble Salt Concentration shall be less than 10 dS/m. (Method TMECC 4.10-A, USDA and U.S. Composting Council).

d) Stability. Carbon Dioxide evolution rate shall be less than 3.0 mg CO₂-C per g compost organic matter (OM) per day or less than 6 mg CO₂-C per g compost carbon per day, whichever unit is reported. (Method TMECC 5.08-B, USDA and U.S. Composting Council). Alternatively a Solvita rating of 5.5 or higher is acceptable.

801-3.5.2.1 Pathogens and Pollutant Limits

Select pathogens shall pass US EPA Class A standard, 40 CFR Section 503.32(a). Trace Metals shall pass US EPA Class A standard, 40 CFR Section 503.13, Table 1 for Ceiling Concentrations.

801-3.6 Delivery, Storage, Handling, and Payment

801-3.6.1 General

BSM shall be thoroughly mixed prior to delivery using mechanical mixing methods such as a drum mixer. The Contractor shall protect soils and mixes from absorbing excess water and from erosion at all times.

801-3.6.1.1 Delivery

The Contractor shall not deliver or place soils in wet or muddy conditions.

801-3.6.1.2 Storage

The Contractor shall not store materials unprotected during large rainfall events (>0.25 inches). If water is introduced into the material while it is stockpiled, the Contractor shall allow the material to drain to the acceptance of the reviewing jurisdiction before placement.

801-3.6.1.3 Handling and Placement

BSM shall be lightly compacted and placed in loose lifts approximately 12 inches (300 mm) to ensure reasonable settlement without excessive compaction. Compaction within the BSM area should not exceed 75 to 85% standard proctor within the BSM. Machinery shall not be used in the bioretention facility to place the BSM. A conveyor or spray system shall be used for media placement in large facilities. Low ground pressure equipment may be authorized for large facilities at the discretion of the reviewing jurisdiction. Placement methods and BSM quantities shall account for approximately 10% loss of volume due to settling. Planting methods and timing shall account for settling of media without exposing plant root systems.

801-3.6.1.4 Hydraulic Suitability

The reviewing jurisdiction may request up to three double ring infiltrometer tests (ASTM D3385) or approved alternative tests to confirm that the placed material meets applicable hydraulic suitability criteria. In the event that the infiltration rate of placed material does not meet applicable criteria, the reviewing jurisdiction may require replacement and/or de-compaction of materials.

801-3.6.2 Quality Control and Acceptance

801-3.6.2.1 General

Close adherence to the material quality controls herein are necessary in order to support healthy vegetation, minimize pollutant leaching, and assure sufficient permeability to infiltrate/filter runoff during the life of the facility. Amendments may be included to adjust agronomic properties. Acceptance of the material will be based on test results certified to be representative. Test results shall be conducted no more than 120 days prior to delivery of the blended BSM to the project site. For projects installing more than 100 cubic yards of BSM, batch-specific tests of the blended mix shall be provided to the reviewing jurisdiction for every 100 cubic yards of BSM along with a site plan showing the placement locations of each BSM batch within the facility.

801-3.6.3 Measurement and Payment

Quantities of mixed BSM shall be considered as included in the unit price bid for **“Biofiltration Soil Media, Mulch, and Base”** and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; Biofiltration Soil Media (BSM), sand, topsoil, compost, testing, delivery, storage, placement, and all related items necessary to complete the work in place per the details in the Drawings.

801-4 PLANTING

801-4.1 General

Add the following:

Percolation Test: Prior to installing plants, Contractor shall perform a minimum of three percolation tests in representative areas of the site to verify acceptable natural drainage for planting pits. Tests shall be performed as follows:

- 1) Dig a pit 2' x 2' x 2' deep.
- 2) Fill with water to top and cover with plywood and barricade to protect pedestrians.
- 3) Make daily observations noting the depth of water each day.
- 4) Report to the City Engineer the length of time that the water takes to drain completely from each hole. If water drains from the hole within one day, refill with water. Based on this test, the City Engineer will confer with the Landscape Architect and will make a determination of whether additional drainage measures will be required for boxed size tree plantings.

801-4.2 Protection and Storage

Add the following:

The Contractor's on-site plant storage area shall be approved by the City prior to the delivery of any plant materials. Storage area shall incorporate shaded area for sun-sensitive plants.

All plants shall be handled by their containers. Any plant that has been handled by its trunk or stem shall be rejected. All rejected plants shall be removed from the site immediately.

801-4.5 Tree and Shrub Planting

Delete paragraph 4 and replace with the following:

Planting holes shall be backfilled with a prepared soil mix. Soil shall consist of Type 1, Type 4 and Type 5 organic soil amendments. Type 2 and Type 3 shall not be used.

801-4.6 Plant Staking and Guying

Delete entire section and replace with the following:

Trees shall be staked with (2) tree stakes per tree to a depth not less than 2 feet deep. Tree stakes shall be installed in line with the prevailing wind direction to resist deformation by wind forces. Trees shall contain at least (4) tree ties, with (2) installed at the top of the trunk and (2) installed mid-way between the tree root ball and top of tree trunk. Tree ties shall be twisted twice around tree stakes for a secure hold. Tree ties shall be wrapped two full turns around tree stakes, ends twisted and be fastened to tree ties with a 3/4-inch long, 9 gauge galvanized staple.

Tree Ties shall be "Wonder Tree-Tie" or equal, black in color, installed according to manufacturer's specifications.

Guying shall not be permitted.

801-4.8 Lawn Planting

801-4.8.3 Sod

Add the following:

Final Compaction: Fully germinated and rooted lawn areas shall be allowed to dry sufficiently to permit rolling with a two hundred to three hundred pound water weighted roller to compact the soil around grass and roots and to provide a firm, smooth mowing surface.

Filling: Following compaction and irrigation settlement, all depressed areas shall be filled with screened conditioned top soil and re-sodded.

Finishing: After planting operations are completed, the top surface of the lawn areas shall be left smooth and visually even, with no ridges, rises or depressions.

801-4.9 Erosion Control Planting

801-4.9.3 Seeding and Mulching

Delete section and replace with the following:

Seed, fertilizer, mulch, and other specified materials shall be applied by Method B described in 801-4.8.2. Method B Hydroseed shall consist of a mixture of bonded fiber matrix, seed, commercial fertilizer, binder, green color and water. Mixture shall be applied in a two (2) step process at the following rates:

Step 1: Seed Application Hydro-mulch:

Bonded Fiber Matrix (BFM):	500 lbs. per acre.
Organic Fertilizer (Biosol 6-1-1):	800 lbs per acre
Humate Organic Soil Conditioner:	550 lbs per acre
Tri-C Soluble Humate:	1 lb. per acre
Water:	Per manufacturer's instructions
Mycorrhizal Inoculum:	60 lbs. per acre.
Seed Mix:	Pure live seed in weights as indicated on plans
Green dye color:	Color additive

Step 2: Erosion Control Hydro-mulch

Bonded Fiber Matrix (BFM):	1,500 lbs. per acre.
Water:	As required

Contractor must provide the City with seed "bag tags" and receipt forms prior to installation of hydroseed mixture.

All bare spots shall be re-seeded and mulched by the Contractor within thirty days of the initial application.

The preferred time for performing seeding is between the dates of October 15 and November 30 or before the first substantial winter rains. If this is not possible, seeding shall occur between October 15 and February 28.

Seeding shall be started only after weed eradication, soil preparation and finish grading has been completed and soil has been permitted to settle.

801-5 IRRIGATION SYSTEM INSTALLATION

801-5.1 General

Add the following:

Materials shall be delivered and stored in accord with Section 4 of the Standard Specifications.

Contractor shall furnish any and all temporary electric power required to operate irrigation controllers during construction period or until permanent electrical power has been furnished.

Contractor shall check and verify the water pressure at P.O.C. prior to beginning of work. Notify City of any discrepancy between pressure indicated on plans and actual water pressure.

Contractor shall check and verify all site conditions, utilities, and services prior to trenching. Verify point of connection location prior to beginning of work.

Plans are diagrammatic and approximate. All piping, valve boxes, backflow preventers, etc., shall be located in planting areas. No irrigation equipment except pipe crossings and electrical crossings shall be located in or under sidewalks or in the street, except where street crossings or trench rerouting is required to protect existing trees.

All irrigation equipment shall be installed, flushed, pressure tested, and the coverage test approved prior to plant installation.

801-5.3 Irrigation Pipeline Installation

801-5.3.1 General

Delete in its entirety and substitute with the following:

All assemblies shall be assembled as specified and in accordance with the manufacturer's directions.

Changes in pipeline size shall be accomplished with reducer fittings.

Trenches through paved areas shall be resurfaced in accordance with 306-1.5.

Concrete thrust blocks, minimum 1 cu. ft. with sufficient bearing area to resist the thrust of water, shall be constructed against undisturbed earth at all changes of direction exceeding 45 degrees for pressure mainline pipes 2.5" and 3" in diameter and shall be installed at gate valves, tees, elbows, crosses, and ends of pipe runs; or wherever the

Resident Engineer deems one to be necessary. Thrust blocks are to be installed as per City of San Diego - Standard Drawing SDW-151, sized as for 4" pipe.

Contractor shall install sleeves and chases where any waterline or controller wire passes under paving and/or trails. Sleeves and chases shall extend 12" beyond each side of the improvement. The letter "E" for electrical or the letter "W" for water shall be stamped or chiseled on the improvement directly above the chase or sleeve. The chases shall be a minimum 18" deep for electrical and the sleeves 21" below grade for water (36" under roadways). Sleeves and chases shall be Schedule 40 PVC, typical. The diameter of the sleeve shall be two (2) pipe sizes larger than the diameter of waterline, to be installed in sleeve.

All recycled pressure pipe shall have a continuous purple colored trench marker metallic tape placed nine inches (9") below finished grade directly above the buried pipe. (See Section 800-3.2.2.3 for material.)

Pipes shall not be installed through existing and proposed tree locations to avoid conflict with root ball. Contractor shall avoid trenching under existing Oak tree driplines.

801-5.3.3 Plastic Pipeline
Add the following:

Electrical conduit shall be installed such that the total of all bends and risers between runs does not exceed 360 degrees. All electrical conduits shall be blown free with compressed air of all debris and moisture prior to placement of conductors and cables. During the air blowing process, care shall be taken to not blow, foreign materials and water into irrigation system equipment.

801-5.3.5 Irrigation Electrical Conduits
Add the following subsection:

Electrical conduits shall be free of any dirt, debris and water prior to pulling cabling or conductors. Upon completion of wiring, all electrical conduits shall be sealed with a non-hardening, removable type duct seal conductor compound. Sealing compound shall be placed not more than ½-inch into conduit and over, around top of conduit between wires to provide for easy removal.

801-5.3.6 Identification Tape
Add the following subsection:

Detectable underground warning tape shall be placed 12-inches above all irrigation mainlines and conduits.

801-5.4 Installation Of Valves, Valve Boxes, And Special Equipment
Add the following:

The Contractor shall rework the locking toggles of the concrete valve boxes by replacing the existing clevis pin and sheet metal clip with a cadmium-plated machine bolt and self-locking nut. Apply oil to lubricate and to prevent rust. The Contractor shall paint the identification number of the valve and the controller clock on the cover of the valve box. Valve boxes shall be sized accordingly to allow wires in pull boxes to be loose and maintain a three inch (3") clearance from the lid. All wires in pull boxes shall be loose and shall not come within three inches (3 inches) from lid. Boxes shall be sized

accordingly to accommodate this requirement.

Backflow preventers shall be installed as specified on the contract documents.

801-5.4.1 Decoders for 2 Wire Systems

Add the following subsection:

Decoders for 2-wire irrigation systems shall be installed in a single pull box at all remote control valve banks. A separate 2-wire direct bury cable and 3/4-inch conduit shall be run to each corresponding remote control valve box.

801-5.4.2 Grounding Rods

Add the following subsection:

Grounding rods shall be driven vertically full depth or laid horizontally in a trench not less than 30-inches deep. When laid horizontally, grounding rod shall be bent vertically to be placed into hand hole or foundation.

801-5.4.3 Pull Boxes

Add the following subsection:

Pull boxes shall be placed every 250-300-feet along conduit runs and at valve banks for 2-wire irrigation systems.

801-5.5 Sprinkler Head Installation and Adjustment

801-5.5.1 General

Add the following:

Plans are diagrammatic and approximate. Precise location of heads / bubblers shall be field adjusted to meet minor variations in the plan and locations of existing trees.

801-5.6 Automatic Control System Installation

Add the following:

Controllers, 12 volt conductors and valve actuators shall be installed in conformance with the controller manufacturer's instructions.

All control wires shall be installed in a PVC conduit and placed in the same trench as the mainline.

The irrigation controller foundation shall be placed on an 18-inch thick section of aggregate base and compacted to a relative compaction of 95% prior to placement of the concrete foundation.

The contractor shall be responsible for programming the irrigation controller(s) to the manufacturer's requirements, including the programming of flow meters, ET gauges, rain sensors, decoders, watering times, maximum/minimum flow parameters and operating times for remote control valves. Contractor shall obtain final inspection from the irrigation controller manufacturer's authorized representative and obtain written confirmation to the City that the controller is in complete working order to the manufacturer's requirements.

801-5.7 Flushing and Testing

801-5.7.2 Pipeline Pressure Test

801-5.7.2.1 General

Add the following:

Flush all pipes clean prior to installing sprinkler heads. Do not allow water from irrigation flushing to enter plant pits where water would result in over-saturation of soil creating an unhealthful condition for plant materials.

Mains larger than 2 inches, asbestos cement mains and mains employing socket and spigot gasket joints shall be tested in accordance with section 306-1.4. If leaks develop, repair leaking portions and repeat test until entire system is proven watertight. Test shall be observed and approved by Resident Engineer prior to backfilling trenches.

801-5.7.3 Sprinkler Coverage Test.

Add the following:

When system is complete, and prior to planting, the Contractor shall perform a coverage test in the presence of the Resident Engineer.

801-5.7.5 As-Built Plans (Record Drawings)

Add the following subsection:

Before final acceptance of work, the Contractor shall provide a record set of drawings showing the irrigation system work. Information shall be on clean, full size blueprints of plans. Lettering shall be one quarter (1/4) inch height. All items changed/relocated from original drawings shall be so indicated with the same symbol in the new location. All notes/call outs pertaining to the item shall be directed to new location. All work shall be neat, indicated in red ink and subject to the satisfaction of the Resident Engineer.

All valves shall be numbered by station and corresponding numbers shall be shown on the record drawings. Contractor shall provide Owner with a wiring diagram of each power circuit and control panel that corresponds to each irrigation controller supplied.

All main lines, lateral lines, sleeves, flow sensors, master control valves, remote control valves, shut-off valves, quick coupling valves, and controllers shall be located by measured dimensions, to the nearest one-half foot. Dimensions shall be given from permanent objects such as sidewalks, curbs, walls, structures and driveways.

Reduced set: In addition to full size record drawings and prior to final acceptance of work, the Contractor shall prepare and mount a reduced, clear plastic encased, waterproof color-coded chart showing the valves, mainline, and systems serviced by that particular controller. All valves shall be numbered to match the operation schedule and the drawings. Only those areas controlled by that controller shall be shown. This chart shall be a plot plan, entire or partial, showing building, walks, roads and walls. A photostatic print of this plan, reduced as necessary and legible in all details, shall be made to a size that will fit into the controller cover. This print shall be approved by the

Resident Engineer and shall be hermetically sealed by plastic. This shall then be secured to the back of the automatic controller enclosure door.

The Contractor shall keep on the site at all times, a current record set of the plans.

Immediately upon the installation of any buried pipe or equipment, but prior to any backfilling of trenches, the Contractor shall indicate on the record set of drawings the locations of said pipe or equipment. All changes in direction of main line or lateral lines and all sleeves shall be noted on plans with size and depth.

Record drawings shall be signed and dated in red ink by the Contractor attesting and certifying the accuracy of the record drawings. Contractor shall also include Contractor company name, address and phone number on record drawings.

801-6 MAINTENANCE AND PLANT ESTABLISHMENT

Delete section and substitute with the following:

801-6 LANDSCAPE ROCK AND DECORATIVE SURFACING

801-6.1 Disintegrated Granite

Disintegrated granite surfacing subgrade shall be graded to a uniform slope, thoroughly moistened without flooding and compacted to a minimum of 90% relative compaction and sloped in accordance to the plans. Disintegrated granite surfacing shall be distributed evenly to depth specified true to the surrounding header board or mow curb or concrete surfacing.

Install disintegrated granite surfacing as follows:

- 1) Excavate to allow installation of Class II base and disintegrated granite flush with adjacent grades. Moisture compact sub-grade 90% density to a depth of 8" prior to placing Class II base.
- 2) Apply two applications of pre-emergent herbicide. Apply once before placing Class II base and once following placement of the disintegrated granite.
- 3) Stabilized Disintegrated Granite-Type 1 Only: Pre-blend stabilized disintegrated granite at the rate of 10 lbs. of stabilizer per ton of disintegrated granite at the manufacturing facility. Blending may be done with cement mixer, pug mill, or any similar piece of equipment to thoroughly and completely blend the stabilizer with the disintegrated granite material. It is essential that the stabilizer be mixed thoroughly and uniformly through the disintegrated granite. Proper mixing is a must for successful application.
- 4) Place disintegrated granite in a (2) 2" lifts for a total thickness of 4". Disintegrated granite shall be placed over a 4" layer of compacted Class II base.
- 5) After each lift, grade and smooth stabilized disintegrated granite.
- 6) After each lift, apply water until moisture penetrates to full depth of the

disintegrated granite. Water activates stabilizer, so it is essential that the full depth of the material receives water at this time.

- 7) After each lift and upon thorough moisture penetration, compact each lift of the stabilized disintegrated granite to a minimum of 95%. Compaction shall be done with a vibrating roller. Finish grade shall be level with adjacent concrete, mow curb or header grades.
- 8) Allow finished surface enough time to dry completely before use. Set up time varies, depending upon weather conditions. A hot, dry climate will set up sooner than cooler, moist climate.
- 9) Make one additional pre-emergent application one week prior to substantial completion.

801-6.2 Landscape Boulders

Quantity, spacing and location of the boulders shall be as shown on the Plans. Boulders shall be installed with weathered face exposed and a minimum of 1/3 of stone below finished grade.

After initial placement of boulders, contractor shall notify the City for review. Contractor shall make adjustments in the boulder placement as directed by the City. Upon approval, the contractor shall set the boulders in place and backfill around the boulders with specified material as shown on the Plans, to set the boulders in a stable position and to prevent future removal or displacement of the boulders.

801-6.3 Rock Cobble

Rock cobble shall be placed at a minimum depth of 6 inches and laid out per the detail in the Plans and the Bid Schedule. Place the larger cobble first, over permeable weed barrier filter fabric per the detail in the Plans and fill in the gaps with the smaller cobble. Barrier fabric shall conform to Section 213-5. Place any sharp or broken edges of cobble down. Cobble shall sufficiently cover all fabric areas with no exposed open area. Cobble placement shall in no way impede drainage flow as shown on the Plans.

801-6.4 Operations and Maintenance Manuals

Prepare and deliver to the City within ten calendar days prior to completion of construction, two (2) three ring hard cover binders containing the following information: Index sheet stating Contractor's address and telephone number, list of equipment with name and addresses of local manufacturers' representatives.

Catalog and parts sheets on all material and equipment.

Contractor Guarantee statement.

Complete operating and maintenance instructions for all equipment.

In addition to the above mentioned maintenance manuals, provide the maintenance personnel with instructions for maintaining equipment and show evidence of such instruction in writing to the Resident Engineer at the conclusion of the project.

Payment for operation and maintenance manuals shall be included in the lump sum price for irrigation, and no additional compensation shall be allowed.

801-6.5 Extra Equipment

Contractor shall provide to the City:

1. Three (3) keys for opening and locking each automatic controller enclosure.
2. Two (2) globe valve keys with a minimum four (4) foot long handle.
3. Five (5) sprinkler heads with nozzles, screens and flexible swing joints of each type used on the project.
4. Five (5) quick coupler keys with swivel hose ells to match quick coupler valves used on the project.
5. Payment for extra equipment shall be included in the lump sum price for irrigation system, and no additional payment will be allowed.

801-7 MEASUREMENT

Delete section and substitute with the following:

801-7 TREE PROTECTION AND PRUNING

801-7.1 General

Trees which have been identified to remain as shown on the Plans shall be protected. All work to be conducted within Tree Protection Zones designated on the Plans shall not be done without recommendation and monitoring of an ISA Certified Arborist. Failure to properly protect the identified trees may result in charges based on the assessed value of the tree and other damages once valued by a Certified Arborist.

801-7.2 Preparation and Maintenance

Tree Protection Fencing: Install temporary fencing per the Plans and Special Provisions around the Tree Protection Zones designated on the Plans or where directed by the City to protect remaining vegetation from construction damage. Install temporary signs 60 feet apart, or two per protected tree, whichever is greater, on temporary fencing. Tree protection fencing shall be installed prior to actual construction start and maintained for the duration of the project. Tree protection fencing shall be removed when construction is complete.

Tree Protection Zone: During the entire construction period, all reasonable efforts shall be made to protect from damage those trees and their root systems designated to remain. Around the trees to be protected, the Contractor shall avoid excessive excavation or compaction and damage during the removal of trees and shrubs designated to be removed. All plant material designated to be saved, or outside of the limits of construction, shall be protected during subsequent construction work.

Within tree protection zone, construction or excavated materials shall not be stored, equipment operated nor temporary storage buildings or work trailers placed. Protect tree root systems from damage caused by runoff or spillage of noxious materials while

mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations. Do not permit vehicles or foot traffic within tree protection zones, and prevent soil compaction over root systems. Do not allow fires under or adjacent to remaining trees or other plants.

Supplemental Watering: Contractor shall supply supplemental weekly watering to High Priority Tree Protection Zones identified on the Plans to maintain adequate soil moisture levels throughout construction as deemed necessary by the Certified Arborist.

Monitoring: Contractor shall notify Arborist and City as soon as possible if the following occurs:

- a) Unusual changes in appearance or injury of protected trees.
- b) Construction work requires modification of or additional work within the TPZ not depicted on the Plans.

801-7.3 Excavation

Do not excavate within tree protection zones, aside from areas designated on Plans. Where excavation for new construction is required within drip line of trees, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks and comb soil to expose roots.

Relocate roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and relocate them without breaking. If encountered immediately adjacent to location of new construction and relocation is not practical; cut roots approximately 3 inches back from new construction.

Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect.

Do not allow heavy equipment in tree protection areas. All excavation work is to be performed by hand.

801-7.4 Grading

Do not fill within tree protection zones, except for areas indicated on Plans. Where filling for new construction is required within drip line of trees, perform work by hand to minimize damage to root systems. Where existing grade is below elevation of finish grade, fill with topsoil. Place topsoil by hand in a single uncompacted layer and hand grade to required finish elevations.

801-7.5 Root Pruning

Root pruning shall take place only where the roots of existing trees will be damaged by construction of the Project, as directed by the Certified Arborist. If construction is to occur within the root zone of existing plant material, root pruning and special plant care including fertilizing and watering will be required, as directed by the Certified Arborist and hereinafter specified. Root pruning shall be conducted in advance of construction

as much as possible to allow the tree time to compartmentalize wounds and build up new energy reserves.

Root pruning using an approved mechanical root pruning saw shall be performed prior to digging where noted on the plans, or directed by the Certified Arborist. Air Spading excavation consisting of hand and/or pneumatic excavation may be required if directed by Certified Arborist. Whenever roots of plant material to remain are exposed during construction, the damaged root ends are to be removed by cutting them off cleanly. Roots shall be cleanly cut a minimum of 6 inches away from edge of new walk, wall, pavement or curb.

Initial watering shall be performed on all trees, which are designated for root pruning. Following root pruning, water trees immediately by thoroughly saturating root zones, and keep root zones thoroughly saturated during the first three weeks. Subsequent weekly watering shall be applied according to weather conditions and as deemed necessary by Certified Arborist.

Any damage to the root zone, as determined by the Certified Arborist, will be compensated by pruning an equivalent amount of the top vegetative growth of the material within 1 week.

Fertilize damaged trees with fertilizer that promotes root growth. Fertilizer nutrients shall be applied within 48 hours after root damage occurs. A fertilizer with a 1: 1: 1 ratio shall be applied at the rate of .5 pounds of nutrients per 1000 square feet. Application shall be accomplished by placing dry fertilizer in holes in the soil. The holes shall be 8 inches to 12 inches deep and spaced 24 inches apart in an area beginning 30 inches from the base of the plant. Holes can be punched with a punch bar, dug with a spade, drilled with an auger or any other method approved by the Certified Arborist. Approximately 0.02 pounds (10 grams) of fertilizer nutrients shall be placed in each hole. If the Certified Arborist determines that the whole method of fertilizer placement is not practical or desirable, an approved method of uniform surface application will be allowed.

801-7.6 Crown Pruning

Trees shall be pruned per ANSI A300 Standards for Tree Care Operations and as directed by the Certified Arborist. Crown pruning shall include:

- a) Removal of low branches overhanging vehicular areas to a height of 14 feet above roadway grade unless otherwise directed.
- b) Removal of low branches overhanging sidewalks to a height of 8 feet above surface grade unless otherwise directed.
- c) Removal of low branches overhanging proposed structures to allow for a clearance of 5' from structure top unless otherwise directed.
- d) Removal of the dead, broken, diseased, and insect-infested branches and stubs larger than ½ inch in diameter.
- e) Shortening the length of limbs which extend beyond the natural perimeter of an otherwise symmetrical form.
- f) Pruning end branches to lighten end weights where such overburden appears likely to cause breakage of limbs.
- g) Removal of cross limbs and water sprouts (suckers).

- h) Thinning out areas of heavy growth to reduce pressure on the tree from the wind.
- i) Removal of limbs to compensate for required root pruning.

Final pruning cuts shall be made without leaving a stub. Final pruning cuts shall be made in a manner to favor the earliest covering of the wound with callous growth. The wound shall be as small as practicable. The cut shall be flush within the shoulder ring area. The cambium tissues at the edge of the cut shall be alive and healthy. Extremely flush cuts which produce large wounds and weaken the tree at the cut shall not be made. Pruning and cutting tools shall be kept sharpened to a condition that shall not permit leaving a scraped cambium edge on final cuts. Such tools shall also be kept clean and free from infectious materials. The use of climbing spurs or spike shoes shall not be permitted.

801-7.7 Tree Repair and Replacement

Promptly repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots according to Arborist's written instructions.

Remove and replace dead and damaged trees that Arborist determines to be incapable of restoring to a normal growth pattern.

Replace dead or irreversibly damaged tree with 60" box specimen of same species. If Arborist and City determine that tree damage was preventable and occurred as a result of contractor negligence, Contractor shall provide the City with liquidated damages in the amount of the appraised value of the original tree.

801-7.8 Root Barrier

Install root barriers in locations shown on Plans, or for trees within 10 feet of hardscape for new construction, or where the root pruning and walk construction has been completed, or as directed by the City.

Where trees requiring root barriers are 18 feet or less apart, the barrier shall be installed continuously between trees. The barrier shall be placed 1 inch below finish grade against the back of the curb or edge of walk. Vertical raised ribs on barrier shall be faced toward the tree(s). The barrier shall be installed vertically or with top inclined towards the tree.

801-8 MAINTENANCE AND PLANT ESTABLISHMENT

Add the following section:

The time required for plant establishment work should not be considered as included in the total time limit specified for the Contract. The plant establishment period shall not begin until all items in the contract are complete, constructed, in place, checked and accepted. The effective date of the start of the plant establishment period shall be established by the City.

The Contractor shall continuously maintain all involved areas of the contract during the progress of the work and during the maintenance period until the final acceptance of the work.

The Contractor shall provide complete landscape maintenance of all planting areas. The work shall include, but not be limited to, lawn mowing, litter control, weed control, stake repair, tree tie maintenance, cultivating, repair of irrigation systems, control of diseases and pests and control and repair of soil erosion. Maintenance practices shall be a sufficient effort that assures plant health and growth. Replacement of any landscaping that has died during the maintenance period.

Throughout the maintenance period, the Contractor shall be responsible for controlling the application of irrigation water to promote plant growth, health, and vigor while minimizing water use and avoiding over irrigation which may contribute to structural damage or water related damage. This control shall be exercised by careful and frequent programming of controller and occasional hand watering.

When fluctuations of water pressure and water supply are encountered during normal working hours, plants shall be watered at other times, as often, and in sufficient amounts as conditions may be required in keeping the soil and plant roots moist during the life of the contract to ensure successful plant establishment. No additional payment will be allowed.

The Contractor shall control weeds, disease, rodents, and pest infestations in the planting areas. The City shall approve all methods and materials for such control upon approval. The Contractor shall implement the control measures exercising extreme caution in using pesticides and taking all steps to ensure the safety of the public. Only licensed personnel will be permitted to perform toxic spraying in conformance with State laws.

During the plant establishment period, the Contractor shall furnish sufficient personnel and equipment on a daily or weekly basis to perform the work required by this Section. The Contractor shall submit a maintenance schedule for review and approval by the City. If the maintenance of the plants and project is unacceptable to the City, the Contractor shall modify the maintenance schedule to the satisfaction of the City. Any day when the Contractor fails to adequately carry out specified maintenance work, as determined necessary by the City, the day will not be credited as one of the plant establishment days. All planting areas which are damaged during the work shall be repaired by the Contractor within fourteen (14) calendar days following completion of construction in such areas, unless otherwise approved by the City. Repair shall consist of restoring damaged areas back to final grade, inspection of the underlying irrigation system and making any necessary repairs, replanting the area with the same vegetation as originally specified, and maintaining the area to achieve an acceptable plant establishment.

Commercial fertilizer (granular) shall be applied to trees when directed by the City.

Commercial fertilizer type 1 shall be applied at the rate of 6 lbs. Per 1,000 square feet and shall be spread with a mechanical spreader wherever possible.

Commercial fertilizer (slow release) shall be applied to trees at 60 day intervals, when directed by the City. Commercial fertilizer shall be applied at the rates shown on the Plans and shall be spread with a mechanical spreader wherever possible.

Weeds within plant basins, including basin walls and ground cover, shall be controlled by hand pulling.

Weeds within mulched and groundcover areas and outside of plant basins shall be controlled by killing.

Weeds within pavement, curbs, sidewalk, and other surfaced areas shall be controlled by killing.

The Contractor shall provide supplemental water as needed to provide for the health and growth of all plant material during the Plant Establishment Period. Hand watering may be necessary to prevent the root ball from drying out until the roots establish into the surrounding soil.

Contractor shall control the amount of water applied to prevent over-saturation and accumulation of water at the low end of the soil.

During the plant establishment period, any replacement of plants shall be the same size as originally specified.

Wye strainers shall be cleaned and flushed at least fifteen (15) calendar days prior to the completion of the plant establishment period.

Previously installed filters shall be removed, cleaned and reinstalled at least fifteen (15) calendar days prior to the completion of the plant establishment period.

The final inspection shall be performed in conformance with the provisions in Section 5-1.13, "Final Inspection," of the Caltrans Standards and shall be completed a minimum of twenty eight (28) working days before the estimated completion of the contract. Failure to pass inspection will result in an extension of the post-construction maintenance period as the City deems necessary, at no additional cost to the City.

Prune trees and shrubs as needed or as directed by the City. Trees shall not be allowed to grow beyond 2' from the face of curbs. The Contractor is responsible for protection of all planting during the entire contract period by adequate methods. Planting damaged during the contract period shall be replaced.

Contractor shall provide the City with as-built drawings of the entire irrigation system a minimum of one week prior to the final walkthrough.

Any material found to be dead, missing or in poor condition during the post-construction maintenance period shall be replaced immediately. The City shall be the sole judge as to the condition of the material. Material found to be dead or in poor condition (not viable) within the guarantee period shall be replaced by the Contractor, at his expense, within twenty one (21) calendar days of written notification. Replacement shall be made to the same specifications required for the original plantings.

Additional mulch may be required at the City's direction within areas of mulch that have settled or has been removed or displaced.

Trees shall be guaranteed to remain healthy, free of disease and vigorously growing for one (1) year from the date of final acceptance and at the end of the plant establishment period. Shrubs and groundcover shall be guaranteed to remain healthy, free of disease and vigorously growing for one hundred eighty (180) calendar days from the date of final acceptance of the project.

The City of Santee may make random or scheduled visits anytime during the establishment period. This guarantee shall not apply to damage or death resulting from negligence or vandalism by parties other than the contractor as determined by the City. All trees, shrubs, or groundcover found to be dead or not in a vigorous condition within the guarantee period shall be replaced within twenty one (21) calendar days of written notification by the City. Plants used for replacement shall be the same size, species and variety as specified in the plant list. They shall be furnished, planted and fertilized as originally specified without cost to the City.

The Contractor shall schedule a final inspection with the City 10 days prior to the end of the plant establishment period in order to verify all items and requirements of the plant establishment period have been met by the Contractor. The Contractor shall be required to make any corrections as noted by the City during the final inspection prior to making final payment of the plant establishment period.

801-9 MEASUREMENT

Add the following:

Landscaping and irrigation will be measured as specified in the Special Provisions and as shown in the Bid.

801-10 PAYMENT

Add the following:

Payment for “**Landscape Planting**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals, including but not limited to; soil preparation, amendments, weed abatement, fine grading, trees, shrubs, grasses, non-irrigated hydroseed, grass turf, wood mulch, root barrier, rock cobble, landscape boulders, planting, staking, ties, guying, plant replacement if necessary, and all related items necessary to complete the work in place.

Payment for “**Tree Protection and Pruning**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to, installation of tree protection fencing and signage, monitoring, arborist communication, root pruning, crown pruning, supplemental/temporary irrigation, tree repair and all related items necessary to complete the work in place.

Payment for “**Stabilized Disintegrated Granite Surfacing – Type 1**” shall be measured and paid for on a square foot basis at the thickness specified in the Plans

and the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; excavation, preparation of subgrade, 5-lb sample, stabilized disintegrated granite surfacing, toughening agents, compaction and all related items necessary to complete the work in place per the details in the Plans.

Payment for “**Disintegrated Granite Surfacing – Type 2**” shall be measured and paid for on a square foot basis at the thickness specified in the Plans and the Bid Schedule and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; excavation, preparation of subgrade, 5-lb sample, disintegrated granite surfacing, toughening agents, compaction and all related items necessary to complete the work in place per the details in the Plans.

Payment for “**Agricultural Soils Tests and Percolation Tests**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to, sampling, testing, and amending soil as needed to perform the planting and irrigation work set forth within the Plans, these Specifications, and the Bid Schedule, and all related items necessary to complete the work in place.

Payment for “**Wood Mulch**” shall be measured and paid for on a per square foot basis to the thickness shown on the Drawings and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to, mulch placement and all related items necessary to complete the work in place.

Payment for “**Blended Mulch**” shall be measured and paid for on a per square foot basis to the thickness shown on the Drawings and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to, mulch placement and all related items necessary to complete the work in place.

Payment for “**Landscape Boulders**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals, including but not limited to; minor excavation, boulder placement, adjustment, and all related items necessary to complete the work in place.

Payment for “**Rock Cobble**” shall be measured and paid for on a square foot basis at the depth shown on the Plans and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals, including but not limited to; placement of filter fabric, cobble placement, adjustment and fine grading, and all related items necessary to complete the work in place.

Payment for “**Landscape Irrigation System**” shall be measured and paid for on a lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary including but not limited to; all trenching, backfilling, compaction, piping, sleeves, fittings, hardware, controllers, backflow prevention devices, controller enclosures, foundations, ET gauges, rain sensors, flow monitoring devices, valves, pressure regulators, remote control valves, quick couplers, valve boxes, spray heads, rotors, drip lines, remote control wires, communication wires, communication conduits, flow sensing cables, electrical conduits, electrical wiring,

electrical breakers, electrical splices, electrical grounding, pull boxes, electrical conduit, vandal resistant covers, vandal resistant hardware, labeling, controller programming and setup, irrigation inspections with the City, and all work involved in the installation as shown on the Plans, these specifications and all related incidentals necessary to complete the work in place.

Payment for **“Perform 90 Day Maintenance/Plant Establishment and Warranty”** shall be measured and paid for on an lump sum basis and shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals including but not limited to; watering, adjustment of tree ties, and all work involved in the installation as shown on the plans, these specifications, complete and in place for the plant establishment period.

CONTRACT EXHIBITS

BID SUBMITTAL PACKAGE

CITY OF SANTEE, CALIFORNIA

DEPARTMENT OF DEVELOPMENT SERVICES



BID SUBMITTAL PACKAGE FOR MAST PARK IMPROVEMENTS CIP 2008-53

JULY 2018

PROJECT NUMBER: CIP 2008-53

BID OPENING DATE: Thursday, August 16, 2018 at 10:00AM

THIS PACKAGE CONTAINS THE DOCUMENTS REQUIRED TO BE SUBMITTED AT THE TIME OF BID AS THE BIDDERS RESPONSE TO THE CITY'S NOTICE INVITING BIDS. THIS PACKAGE IS TO BE REMOVED FROM THE BID DOCUMENTS, STAPLED, AND SUBMITTED IN A SEALED ENVELOPE WITH THE BIDDERS CONTACT INFORMATION LABELED.

BIDDERS CHECK LIST

THE FOLLOWING DOCUMENTS MUST BE SUBMITTED TO COMPRISE A COMPLETE BID.

- _____ Submitted in a Sealed Envelope Bearing the name of the bidder, the bidder's address, the name of the project for which the bid is submitted and appropriate State Contractor's license designation held by the bidder
- _____ Acknowledgement on the Information Required of Bidder or attachment of any addendum to the bid that is issued prior to the bid opening
- _____ Proposal
- _____ Bid Schedule
- _____ Signature Sheet (must be signed and notarized)
- _____ Bid Bond (must be signed, notarized, with Surety's Power of Attorney)
- _____ Information Required of Bidder
- _____ Designation of Subcontractors
- _____ Public Works Contractors Registration Certification
- _____ Guarantee
- _____ Non-Collusion Affidavit (must be signed and notarized)

THE FOLLOWING SAMPLE DOCUMENTS ARE FOR INFORMATION ONLY, AND WILL ONLY BE COMPLETED BY THE SUCCESSFUL BIDDER.

Contract Agreement

Performance Bond

Payment Bond (Labor and Material Bond)

Workers Compensation Insurance Declaration

PROPOSAL
FOR
MAST PARK IMPROVEMENTS
CIP 2008-53

FROM:

Name of Bidder: _____

Contact Name: _____

Business Address: _____

Telephone No.: _____

Fax No.: _____

Email: _____

License No.: _____ Class(es) _____

Expiration Date: _____

DIR Registration No.: _____

TO:

CITY OF SANTEE
The Honorable Mayor and
Members of the City Council

Pursuant to your Notice Inviting Sealed Bids on proposals for:

MAST PARK IMPROVEMENTS
CIP 2008-53

The undersigned, as bidder, declares that he has carefully examined the location of the proposed work; that he has carefully examined the Plans and Specifications; and read the accompanying information for Bidders; and hereby proposes to furnish all materials, machinery, tools, labor and services, and do all the work necessary to complete the project in accordance with said Plans, Specifications and Special Provisions, at the following prices:

BID SCHEDULE

MAST PARK IMPROVEMENTS CIP 2008-53

The estimated quantities and total cost herein set forth are for the purpose of comparison of bids only, and final payment will be made upon the basis of actual quantities and unit prices bid. City reserves the right to vary these quantities by up to 25-percent without renegotiating the item unit prices.

BASE BID					
No.	Description	Quantity	Unit	Unit Price	Total
1	Mobilization	1	LS	\$	\$
2	Water Pollution Control	1	LS	\$	\$
3	Agronomous Testing	1	LS	\$	\$
4	Geotechnical Testing	1	LS	\$	\$
5	Traffic Control	1	LS	\$	\$
6	Surveying	1	LS	\$	\$
7	Archaeological Monitoring	1	LS	\$	\$
8	Archaeological Discovery	5	EA	\$	\$
9	Biological Monitoring (Wildlife Encounters)	5	EA	\$	\$
10	Clearing and Grubbing	1	LS	\$	\$
11	Tree Removal	129	EA	\$	\$
12	Earthwork and Grading	1	LS	\$	\$
13	3" Asphalt Concrete (R&R)	38,500	SQFT	\$	\$
14	2" TRMAC Rubberized Asphalt Concrete Pavement	270	SQFT	\$	\$
15	4" Asphalt Pavement (Type B)	180	SQFT	\$	\$
16	Crushed Aggregate Base	750	CY	\$	\$
17	Concrete Curb Ramp – Type A (SDRSD G-27)	3	EA	\$	\$
18	Concrete Driveway – Type A (SDRSD G-14A)	2,280	SQFT	\$	\$
19	Concrete Driveway – Modified G-17	880	SQFT	\$	\$
20	Concrete Driveway – Type D (SDRSD G-14D)	2,210	SQFT	\$	\$

21	Concrete Sidewalk (SDRSD G-7)	1,010	SQFT	\$	\$
22	Colored Concrete – 4" Thick	1,720	SQFT	\$	\$
23	Colored Concrete – 5.5" Thick	570	SQFT	\$	\$
24	Exposed Aggregate Colored Concrete – 4" Thick	4,260	SQFT	\$	\$
25	Concrete Pathway – 4" Thick	36,100	SQFT	\$	\$
26	Concrete – 5.5" Thick	2,630	SQFT	\$	\$
27	Concrete – Basketball Court	8,630	SQFT	\$	\$
28	Colored Stamped Concrete – 6" Thick	3,030	SQFT	\$	\$
29	Decorative Concrete Engraving	1	LS	\$	\$
30	Accessible Play Area Ramp	4	EA	\$	\$
31	Play Area Surfacing – 12 Inches Thick	9,890	SQFT	\$	\$
32	Play Area Surfacing – 6 Inches Thick	1,070	SQFT	\$	\$
33	6" Concrete Curb and Gutter Type G (SDRSD G-2)	1,030	LF	\$	\$
34	Concrete Cross Gutter (SDRSD G-12)	170	SQFT	\$	\$
35	6" Concrete Curb (SDRSD G-1)	1,070	LF	\$	\$
36	0" Concrete Curb (SDRSD G-1)	130	LF	\$	\$
37	18" Concrete Gutter (SDRSD G-1)	56	LF	\$	\$
38	Blended Mulch	96,500	SQFT	\$	\$
39	16' Swing Pipe Gate	1	EA	\$	\$
40	17' Swing Pipe Gate	1	EA	\$	\$
41	27' Swing Pipe Gate	1	EA	\$	\$
42	3' Wide Concrete Brow Ditch (SDRSD D-75)	180	LF	\$	\$
43	Removable Bollard	4	EA	\$	\$
44	42" Black Vinyl Coated Chain Link Gate with Butterfly Latch (Dog Park, 4' Wide)	10	EA	\$	\$
45	42" Black Vinyl Coated Chain Link Gate with Butterfly Latch (12' Wide)	6	EA	\$	\$
46	42" Black Vinyl Coated Chain Link Fence	3,390	LF	\$	\$

47	60" Black Vinyl Coated Chain Link Fence	930	LF	\$	\$
48	6' Black Vinyl Coated Chain Link Fence	260	LF	\$	\$
49	Temporary Environmentally Sensitive Area Fencing	2,140	LF	\$	\$
50	Pedestrian Protective Railing	670	LF	\$	\$
51	Lodge Pole Fencing (2-Rail)	2,090	LF	\$	\$
52	Stabilized Disintegrated Granite Surfacing – 4" Thick (Type 1)	44,900	SQFT	\$	\$
53	Disintegrated Granite Surfacing 4" Thick (Type 2)	26,800	SQFT	\$	\$
54	6" Concrete Mow Curb	8,200	LF	\$	\$
55	8" Pour in Place Wall	940	LF	\$	\$
56	Seat Wall (Veneer Stone)	60	SQFT	\$	\$
57	Seat Wall (Cut Stone)	8	EA	\$	\$
58	Culvert Crossing Headwalls	4,520	SQFT	\$	\$
59	Masonry Retaining Wall	490	SQFT	\$	\$
60	30' Shade Structure	1	LS	\$	\$
61	38' Shade Structure with Masonry Columns	1	LS	\$	\$
62	Cantilevered Pergola with Masonry Columns	1	LS	\$	\$
63	Pre-Fabricated Disc Golf Concessions Building	1	LS	\$	\$
64	Pre-Fabricated Restroom Facility	1	LS	\$	\$
65	Sensitive Habitat Signs	20	EA	\$	\$
66	Park Regulation Sign	4	EA	\$	\$
67	Place Roadway Sign	9	EA	\$	\$
68	Handicap Parking Stall Signing and Striping	1	LS	\$	\$
69	6' Concrete Wheel Stop	41	EA	\$	\$
70	Striping	1	LS	\$	\$
71	Basketball Court Striping	1	LS	\$	\$
72	Concrete Park Bench	4	EA	\$	\$
73	Metal Park Bench	20	EA	\$	\$

74	Salvage and Reuse Existing Concrete Park Bench	13	EA	\$	\$
75	Salvage and Reuse Existing Metal Park Bench	6	EA	\$	\$
76	Trash Receptacle on Concrete Pad	34	EA	\$	\$
77	8' Picnic Table	14	EA	\$	\$
78	Salvage and Reuse Existing Picnic Table	13	EA	\$	\$
79	ADA Picnic Table	8	EA	\$	\$
80	Pet Waste Station	8	EA	\$	\$
81	Hot Coal Bin	3	EA	\$	\$
82	Barbecue Grill	3	EA	\$	\$
83	Dog Park Equipment and Amenities	1	LS	\$	\$
84	Table Tennis	1	EA	\$	\$
85	Bean Bag Toss	2	EA	\$	\$
86	Portable Restroom Screened Enclosure	1	LS	\$	\$
87	Dog Fountain	2	EA	\$	\$
88	3-Way Drinking Fountain	4	EA	\$	\$
89	Restroom Building FF&E	1	LS	\$20,000	\$20,000
90	Concession Building FF&E	1	LS	\$10,000	\$10,000
91	Disc Golf Tee Box	18	EA	\$	\$
92	Disc Golf Goal	10	EA	\$	\$
93	Disc Golf Tee Information Signage	18	EA	\$	\$
94	Disc Golf Safety Signage	5	EA	\$	\$
95	Disc Golf Rules Signage	1	EA	\$	\$
96	Gooseneck Basketball Hoop	2	EA	\$	\$
97	Play Structure (2-5 Year Old)	1	LS	\$	\$
98	Play Structure (5-12 Year Old)	1	LS	\$	\$
99	Motion Play Area	1	LS	\$	\$
100	Nature Discovery Area	1	LS	\$	\$
101	Outdoor Fitness Equipment	1	LS	\$	\$
102	Bike Rack	1	EA	\$	\$

103	Bike Repair Station Including Air Pump	1	EA	\$	\$
104	Interpretive Sign Panel	2	EA	\$	\$
105	Disc Golf Kiosk	1	EA	\$	\$
106	Entry Kiosk with Masonry Surrounding	2	EA	\$	\$
107	Field Directed Changes	1	LS	\$50,000	\$50,000
108	Perform 90 Day Maintenance/Plant Establishment and Warranty	1	LS	\$	\$
109	Landscape Irrigation System	1	LS	\$	\$
110	Landscape Planting	1	LS	\$	\$
111	Rock Cobble	29,900	SQFT	\$	\$
112	Boulders 'A'	50	EA	\$	\$
113	Boulders 'B'	230	EA	\$	\$
114	Boulders 'C'	340	EA	\$	\$
115	Tree Protection and Pruning	1	LS	\$	\$
116	6" Fire Hydrant Assembly	1	EA	\$	\$
117	6" Fire Backflow Prevention Device	1	EA	\$	\$
118	Relocate 2" Backflow Prevention Device	1	EA	\$	\$
119	6" Gate Valve	1	EA	\$	\$
120	Thrust/Anchor Block	6	EA	\$	\$
121	Isolation Valve	11	EA	\$	\$
122	Pedestal Type Hose Bib Hydrant	3	EA	\$	\$
123	6" PVC Water Line	460	LF	\$	\$
124	6" PVC Sewer Line	320	LF	\$	\$
125	3/4" PVC Water Line	150	LF	\$	\$
126	1" PVC Water Line	1,880	LF	\$	\$
127	2" Copper Water Line	580	LF	\$	\$
128	Sewer Cleanout	4	EA	\$	\$
129	Site Electrical System	1	LS	\$	\$
130	Parking Lot Lights	12	EA	\$	\$
131	Park Lights	6	EA	\$	\$

132	Southern Trail Lights	17	EA	\$	\$
133	Basketball Court Lights	4	EA	\$	\$
134	Remove Existing Catch Basin	1	EA	\$	\$
135	Remove 6" PVC Pipe	44	LF	\$	\$
136	18" RCP	110	LF	\$	\$
137	24" RCP	220	LF	\$	\$
138	36" RCP	110	LF	\$	\$
139	Pre-Cast Concrete Drain Box (12" x 12")	7	EA	\$	\$
140	Type G1 Catch Basin	3	EA	\$	\$
141	3" PVC Drain Pipe	46	LF	\$	\$
142	3" PVC Perforated Drain Pipe	740	LF	\$	\$
143	4" PVC Drain Pipe	81	LF	\$	\$
144	4" PVC Perforated Drain Pipe	160	LF	\$	\$
145	6" PVC Drain Pipe	66	LF	\$	\$
146	8" PVC Drain Pipe	320	LF	\$	\$
147	12" PVC Drain Pipe	90	LF	\$	\$
148	Subdrain Cleanout	4	EA	\$	\$
149	Energy Dissipater (Landscape Cobble, 0.8' Thick)	1,210	SQFT	\$	\$
150	Energy Dissipater (Landscape Cobble, 1.0' Thick)	2,190	SQFT	\$	\$
151	Energy Dissipater (Landscape Cobble, 1.5' Thick)	380	SQFT	\$	\$
152	Energy Dissipater (No. 2 Backing, 1.1' Thick)	173	CY	\$	\$
153	Energy Dissipater (Light Rip Rap, 2.0' Thick)	7	CY	\$	\$
154	Energy Dissipater (1/2 Ton Rip Rap, 2.7' Thick)	42	CY	\$	\$
155	Energy Dissipater (1 Ton Rip Rap, 4.4' Thick)	57	CY	\$	\$
156	Straight Headwall (Type A)	5	EA	\$	\$
157	Wing Type Headwall	1	EA	\$	\$
158	Storm Drain Cleanout Type A Modified, 18' x 6'	1	EA	\$	\$

159	Storm Drain Cleanout Type A5 (SDRSD D-9)	1	EA	\$	\$
160	Rock-Lined Weir (No. 2 Backing, 1.1' Thick)	23	CY	\$	\$
161	3" Crushed Rock – Subsurface Earthen Berms	4	CY	\$	\$
162	Storm Water Treatment Device	1	LS	\$	\$
163	Biofiltration Soil Media, Mulch, and Base	72,600	SQFT	\$	\$
164	Wood Mulch	496,900	SQFT	\$	\$
Total Base Bid:				\$	

SIGNATURE SHEET

MAST PARK IMPROVEMENTS CIP 2008-53

The undersigned agrees that all of the work included in the Proposal shall be completed in accordance with Section 6-7 of these Specifications. The undersigned further agrees that in case of default in executing the required Contract with necessary Bonds and Insurance within ten (10) working days, after having received notice that the Contract has been awarded, the proceeds of the check or bond accompanying his bid shall become property of the City of Santee. The undersigned also agrees that the statement of Contractor's license, class designation and expiration date is made under the penalty of perjury.

*Bidder's Name: _____

Signatory's Name: _____ (Print)

Title: _____

Signature: _____

Date: _____

*If an individual, so state. If a firm or partnership, state the firm name, and give the names and addresses of all individuals and/or copartners composing the firm. If a corporation, state the legal name of the corporation; also the names of the President, Secretary, Manager, and Treasurer thereof, with their business addresses:

If a corporation, chartered under the laws of the State of _____

***NOTE: THE FOLLOWING NOTARIAL ACKNOWLEDGEMENTS OF EXECUTION
BY CONTRACTOR MUST BE COMPLETED AND ATTACHED.**

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")

appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- ☐ Individual
☐ Corporate Officer

Title(s)

- ☐ Partner(s) ☐ Limited
☐ General

- ☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

DESCRIPTION OF ATTACHED DOCUMENT

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

BID BOND

FOR

**MAST PARK IMPROVEMENTS
CIP 2008-53**

KNOW ALL MEN BY THESE PRESENTS that: _____,
_____, as Contractor, and
_____, as Surety,
are held firmly bound unto the City of Santee, a Municipal Corporation, herein after
called City, in the sum of: _____
_____(\$_____)Dollars,
(not less than ten percent of the total amount of the bid), for the payment of which sum
well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors, and assigned, jointly and severally, firmly by these presents.

WHEREAS, said Contractor has submitted a bid to said City to perform all work
required under the Bid Schedule for:

**MAST PARK IMPROVEMENTS
CIP 2008-53**

NOW, THEREFORE, if said Contractor is awarded a Contract by said City and, within
the time and in the manner required under the heading "Information for Bidders" bound
with said Specifications, enters into a written Contracts in the form of the Agreement
bound with said Specifications, and furnishes the required bonds, one to guarantee
faithful performance and the other to guarantee payment for material and labor, and the
required insurance certificates, then this obligation shall be null and void, otherwise it
shall remain in full force and effect. In the event suit is brought upon this bond by said
City and judgment is recovered, said Surety shall pay all costs incurred by said City in
such suit, including a reasonable attorney's fee to be fixed by the court.

*SIGNED AND SEALED, this ____ day of _____, 20_.

Contractor: SURETY

By: _____
Signature

By: _____
Signature

***NOTE: THE FOLLOWING NOTARIAL ACKNOWLEDGEMENTS OF EXECUTION
BY CONTRACTOR AND SURETY MUST BE COMPLETED AND
ATTACHED. THE SURETY'S POWER OF ATTORNEY MUST ALSO BE
ATTACHED.**

**BID BOND
(Continued)**

Contractor:

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")

appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)

Title or Type of Document

- ☐ Partner(s) ☐ Limited
☐ General

Number of Pages

- ☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Date of Document

Signer is representing:
Name Of Person(s) Or Entity(ies)

Signer(s) Other Than Named Above

**BID BOND
(Continued)**

Surety:

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")
appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)
☐ Partner(s) ☐ Limited
☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

(Attach Surety's Power Of Attorney)

INFORMATION REQUIRED OF BIDDER

MAST PARK IMPROVEMENTS CIP 2008-53

The City expressly reserves the right to reject the bid of any bidder who, upon investigation, has been determined to fail to complete similar contracts in a timely fashion or in a satisfactory manner. Such rejection would, if applicable, be based upon the principle that the bidder is "non-responsible" and poses a substantial risk of being unable to complete the work in a cost-effective, professional and timely manner.

In performing the above-described responsibility determination, the City reserves the right to utilize all possible sources of information in making its determination, including but not limited to: inquiries to regulatory State Boards and agencies; Dun and Bradstreet credit reports, inquiries to companies and public entities for which the Contractor has previously performed work, reference checks and examination of all public records.

1. Contractor shall acknowledge the receipt of all addenda's as received, by listing them here: _____, _____, _____, _____, _____. (Check for none ☐)
2. Number of years' experience as a Contractor in construction work: _____
3. List the name of the person from your firm who inspected the proposed work site.
Name: _____ Date of Inspection: _____
4. List at least three projects completed as of recent date:
 - 1) Contract Amount: _____
Type of Work: _____
Date Completed: _____
Owners Information:
Name: _____
Phone: _____
Email: _____
 - 2) Contract Amount: _____
Type of Work: _____
Date Completed: _____
Owners Information:
Name: _____
Phone: _____
Email: _____

- 3) Contract Amount: _____
Type of Work: _____
Date Completed: _____
Owners Information:
Name: _____
Phone: _____
Email: _____
- 4) Contract Amount: _____
Type of Work: _____
Date Completed: _____
Owners Information:
Name: _____
Phone: _____
Email: _____
- 5) Contract Amount: _____
Type of Work: _____
Date Completed: _____
Owners Information:
Name: _____
Phone: _____
Email: _____
- 6) Contract Amount: _____
Type of Work: _____
Date Completed: _____
Owners Information:
Name: _____
Phone: _____
Email: _____

DESIGNATION OF SUBCONTRACTORS

In compliance with the Subletting and Subcontracting Fair Practices Act of the Public Contract Code of the State of California, sections 4100 et seq., each bidder shall set forth below: (a) the name and the location of the place of business and (b) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's Total Bid Price. Notwithstanding the foregoing, if the work involves streets and highways, then the Contractor shall list each subcontractor who will perform work or labor or render service to Contractor in or about the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If no subcontractor is specified, for a portion of the work, or if more than one subcontractor is specified for the same portion of Work, then the Contractor shall be deemed to have agreed that it is fully qualified to perform that Work, and that it shall perform that portion itself.

If no subcontractors meet the above requirements, and/or bidder is self-performing all work, check here ☐

List Subcontractors below:

- 1) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____

- 2) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____

- 3) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____
- 4) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____
- 5) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____
- 6) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____

- 7) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____
- 8) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____
- 9) Name: _____
Address: _____

License No.: _____ Expiration Date: _____
DIR Registration No.: _____
Work Type: _____
Amount of Work by Subcontractor in Dollars \$ _____

*Use an additional sheet if needed

Bidders Name: _____

Signatory's Name: _____ (Print)

Title: _____

Signature: _____

Date: _____

PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See <http://www.dir.ca.gov/Public-Works/PublicWorks.html> for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.

Bidders Name: _____

DIR Registration Number: _____

Bidder further acknowledges:

1. Bidder shall maintain a current DIR registration for the duration of the project.
2. Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.
3. Failure to submit this form or comply with any of the above requirements may result in a finding that the bid is non-responsive.

Bidders Name: _____

Signatory's Name: _____ *(Print)*

Title: _____

Signature: _____

Date: _____

GUARANTEE

To the City of Santee:

The undersigned guarantees the construction and installation of all work included in the following project:

MAST PARK IMPROVEMENTS CIP 2008-53

Should any of the materials or equipment prove defective or should the work as a whole prove defective due to faulty workmanship, material furnished, or methods of installation, or should the work or any part thereof fail to operate properly as originally intended and in accordance with the plans and specifications due to any of the above causes all within twelve (12) months after the date on which this Contract is accepted by the Santee City Council, the undersigned agrees to reimburse the City upon demand for its expenses incurred in restoring said work to the condition contemplated in said project, including the cost of any such equipment or materials replaced and the cost of removing and replacing any other work necessary to make such replacement or repairs or upon demand by the City of Santee to replace any such material and to repair said work completely without cost to the City of Santee so that said work will function successfully as originally contemplated.

The City of Santee shall have the unqualified option to make any needed replacements or repairs itself or to have such replacements or repairs done by the undersigned. In the event the City of Santee elects to have said work performed by the undersigned, the undersigned agrees that the repairs shall be made and such materials as are necessary shall be furnished and installed within a reasonable time after the receipt of demand from the City of Santee. If the undersigned shall fail or refuse to comply with its obligations under this guaranty, The City of Santee shall be entitled to all costs and expenses, including attorneys' fees, reasonably incurred by reason of the said failure or refusal.

Bidders Name: _____

Signatory's Name: _____(Print)

Title: _____

Signature: _____

Date: _____

**CITY OF SANTEE
PROPOSAL
NON-COLLUSION AFFIDAVIT / DECLARATION**

**MAST PARK IMPROVEMENTS
CIP 2008-53**

(To be executed by Bidder and submitted with bid)

State of California)
) ss.
County of _____)

I, _____, being first duly sworn, deposes and says that he is _____ of _____ the party making the attached bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of _____, 20__ at _____, California.

Signature of Bidder _____

Print Name and Title _____

***NOTE: THE FOLLOWING NOTARIAL ACKNOWLEDGEMENTS OF EXECUTION
BY CONTRACTOR MUST BE COMPLETED AND ATTACHED.**

**NON-COLLUSION AFFIDAVIT / DECLARATION
(Continued)**

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")

appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)

- ☐ Partner(s) ☐ Limited
☐ General

- ☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

SAMPLE CONTRACT DOCUMENTS

The following documents are to be executed by the lowest responsive & responsible bidder after award of contract.

AGREEMENT

FOR

MAST PARK IMPROVEMENTS
CIP 2008-53

THIS AGREEMENT, made and concluded in duplicate, this ____ day of _____ 2018, between the City of Santee, hereinafter referred to as "City," and _____, hereinafter referred to as "Contractor".

ARTICLE I. WITNESSETH, that for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the City, and under the conditions expressed in the bond, bearing even date with these presents, and hereunto annexed, the said Contractor agrees with the City, at his own proper cost and expense, to do all the work and furnish all the materials necessary to construct the:

MAST PARK IMPROVEMENTS
CIP 2008-53

complete in place, in a good, workmanlike and substantial manner and to the satisfaction of the Director of Development Services, City of Santee, in accordance with the Special Provisions hereto annexed, the current Prevailing Wages on file at the Department of Development Services, and the latest edition of the Standard Specifications for Public Works Construction, and all addenda thereto, except as modified in the Special Provisions.

ARTICLE II. Said Contractor agrees to receive and accept the unit price bid as full compensation for furnishing all materials and doing all the work contemplated and embraced in this Agreement; for all loss or damage arising out of the nature of the work aforesaid, or from the acts of the elements, or from any unforeseen difficulties of the work until its acceptance by the City and for all risks of every description connected with the work; also for all expenses incurred by or in consequence of the suspension or discontinuance of work, and for well and faithfully completing the work, and the whole thereof, in the manner and according to the Plans and Specifications, and requirements of the Engineer under them, to wit:

BID SCHEDULE

The estimated quantities and total cost herein set forth are for the purpose of comparison of bids only, and final payment will be made upon the basis of actual quantities and unit prices bid. City reserves the right to vary these quantities by up to 25-percent without renegotiating the item unit prices.

(Bid schedule from the Bid Proposal to be inserted here)

ARTICLE III. The City hereby promises and agrees with the Contractor to employ, and does hereby employ the Contractor to provide the materials and to do the work according to the terms and conditions herein contained and referred to, for the sum aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions above set forth; and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.

ARTICLE IV. It is further expressly agreed by and between the parties hereto that should there be any conflict between the terms of this instrument and the bid or proposal of the Contractor, then this instrument shall control and nothing herein shall be considered as an acceptance of the said terms of proposal conflicting herewith.

ARTICLE V. The agreement entered into by this Contract consists of the following Contract Documents, all of which are component parts of the Contract as if herein set out in full or attached hereto:

Notice Inviting Sealed Bids
Information for Bidders
Proposal
Signature Sheet
Bid Bond
Information Required of Bidder
Designation of Subcontractors
Public Works Contractor Registration Certification
Guarantee
Non-Collusion Affidavit / Declaration
Agreement
Performance Bond
Payment Bond (Material and Labor Bond)
Worker's Compensation Insurance Declaration
 Insurance Policies/OCIP
 All Contractor Certifications
 Addenda No's. _____, _____, _____, as issued
 Drawings, Plans, and Specifications
 Greenbook Standard Specifications as modified by the Special Provisions

ARTICLE VI. DRUG FREE WORKPLACE. Contractor shall publish and distribute to all employees, workers and Subcontractors (hereinafter worker) a statement notifying worker that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited. Any worker under the effect or residual effect of such controlled substance is considered a hazard and shall be removed from the job site immediately. This notice shall state that the worker has an obligation to abide by the terms of this Article and to notify the Contractor in writing of any violation of a criminal drug statute occurring in the workplace or at the job site. Contractor shall notify City of such incident and take appropriate action within thirty (30) days. Appropriate action shall include either disciplinary measures or required participation in a drug abuse assistance or rehabilitation program.

ARTICLE VII. PROVISIONS REQUIRED BY LAW. Each and every provision of law and clause required to be inserted in this Contract shall be deemed to be inserted herein and this Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted or is not inserted correctly, then upon application of either party the Contract shall forthwith be physically amended to make such insertion or correction.

ARTICLE VIII. SUBSTITUTION OF SECURITIES. It is understood that at the request and expense of the Contractor, the City will pay the amounts retained pursuant to these Contract Documents as security for the completion of the work in compliance with the requirements of Public Contract Code Section 22300.

ARTICLE IX. TIME FOR COMPLETION. Time for completion shall include all time necessary to complete the work including any punch list items, the submission of any required operation and maintenance manuals, and all warranties. The work shall be commenced on the date stated in the City's Notice to Proceed. As specified in the contract documents and the City's Notice to Proceed, the work shall be completed **180 working days** from and after the date stated in such notice. The Contractor shall be entitled to an extension of working time under this contract only when claim for such extension is submitted to the City in writing within seven (7) days from and after the time when any alleged cause of delay shall occur; and only when such time is approved by the City. The City, and only the City, will determine which days, if any, may be considered rain days.

In entering into this Contract, Contractor acknowledges and agrees that the construction duration stipulated herein is adequate and reasonable for the size and scope of the Project.

ARTICLE X. LIQUIDATED DAMAGES. It is agreed that the Contractor will pay the City the sum of **Seven Thousand Eight Hundred Dollars (\$7,800.00)** per calendar day for each and every day of delay beyond the time prescribed in the Contract Documents for finishing said work, as Liquidated Damages and not as a penalty or forfeiture. In the event the same is not paid, the Contractor further agrees that the City may deduct that amount thereof from any money due or that may become due the Contractor under the Contract. This Article does not exclude recovery of damages under provisions of the Contract Documents.

ARTICLE XI. INDEMNIFICATION. The Contractor shall indemnify, defend and hold harmless the City of Santee, its officers, agents, volunteers and employees from any claim, liability, loss, injury or damage arising out of, or in connection with, performance of this Agreement by Contractor and/or its agents, employees or Subcontractors, excepting only loss, injury or damage caused by the sole negligence or willful misconduct of personnel employed by the City. It is the intent of the parties to this Agreement to provide the broadest possible coverage for the City. The Contractor shall reimburse the City for all costs attorneys' fees, expenses and liabilities incurred with respect to any litigation in which the Contractor is obligated to indemnify, defend and hold harmless the City under this Agreement.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their hand the year and date first above written.

Contractor

Company Name: _____

Signatory Name: _____ *(Print)*

Title: _____

Signature: _____

Date: _____

Contractor's License No.: _____

DIR Registration No.: _____

City Business License No.: _____

CITY OF SANTEE

By: _____ Date: _____
City Manager of the City of Santee

Attest: _____ Date: _____
City Clerk of the City of Santee

APPROVED AS TO FORM:

By: _____
City Attorney of the City of Santee

***NOTE: THE FOLLOWING NOTARIAL ACKNOWLEDGEMENTS OF EXECUTION BY CONTRACTOR MUST BE COMPLETED AND ATTACHED.**

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")
appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)

- ☐ Partner(s) ☐ Limited
 ☐ General

- ☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

END OF CONTRACT AGREEMENT

PERFORMANCE BOND

FOR

MAST PARK CIP 2008-53

KNOW ALL PERSONS BY THESE PRESENTS

THAT WHEREAS the City of Santee (hereinafter referred to as "City") has awarded to _____, (hereinafter referred to as "Contractor") an agreement for _____ (hereinafter referred to as the "Project");

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by the Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of the Contract Documents.

NOW THEREFORE, we, the undersigned Contractor and, _____, as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the City in the penal sum of _____ (\$ _____), the sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one-year guarantee of all materials and workmanship; and shall indemnify and save harmless the City, its officers and agents, as stipulated in the Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the guarantee obligation shall hold good for a period of one (1) year after the acceptance of the work by City, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the City from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the

City's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by City in enforcing such obligation.

Whenever Contractor shall be, and is declared by the City to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the City's option:

- (1) Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
- (2) Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and the City, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.
- (3) Permit the City to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the City may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the City, when declaring the Contractor in default, notifies Surety of the City's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project, including but not limited to the provisions of sections 2819 and 2845 of the California Civil Code.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this ____ day of _____, 20_____.

(Corporate Seal of Principal,
if corporation)

CONTRACTOR/PRINCIPAL

Name

By _____

(Seal of Surety)

SURETY:

By: _____
Attorney-In-Fact

Signatures of those signing for the Contractor and Surety must be notarized and evidence of corporate authority attached.

The rate of premium on this bond is _____ per thousand. The total amount of premium charges, \$_____.
(The above must be filled in by corporate attorney.)

THE FOLLOWING INFORMATION IS MANDATORY

Any claims under this bond may be addressed to:

(Name and Address of Surety)

(Name and Address of Agent or
Representative for service of process
in California, if different from above)

(Telephone number of Surety and
Agent or Representative for service of
process in California)

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")

appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)
evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)

Title or Type of Document

- ☐ Partner(s) ☐ Limited
☐ General

Number of Pages

- ☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Date of Document

Signer is representing:
Name Of Person(s) Or Entity(ies)

Signer(s) Other Than Named Above

Note: Signatures of those signing for the Contractor and Surety must be notarized (duplicate as needed) and evidence of corporate authority attached.

END OF PERFORMANCE BOND

PAYMENT BOND (LABOR AND MATERIALS)

FOR

**MAST PARK
CIP 2008-53**

KNOW ALL MEN BY THESE PRESENTS

THAT WHEREAS the City of Santee (hereinafter designated as the "City"), has awarded to _____, as Principal, a contract for the work described as follows: _____ (the "Work"); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, Principal is required to furnish a bond in connection with the contract described above; providing that if Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto the City in the penal sum of _____ Dollars (\$_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in section 9100 of the Civil Code, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to section 18663 of the Revenue and Taxation Code, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the City in

such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in section 9100 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the City and the Principal or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that the claimant is a person described in Section 9100 of the Civil Code and has not been paid the full amount of his or its claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned and the provisions of sections 2819 and 2845 of the California Civil Code.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their seals this _____ day of _____, 20__, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to the authority of its governing body.

(Corporate Seal of Principal,
if corporation)

CONTRACTOR/PRINCIPAL

Name

By: _____

(Seal of Surety)

SURETY:

By: _____
Attorney-In-Fact

Signatures of those signing for the Contractor and Surety must be notarized and evidence of corporate authority attached.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")

appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)

- ☐ Partner(s) ☐ Limited
☐ General

- ☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

Note: Signatures of those signing for the Contractor and Surety must be notarized (duplicate as needed) and evidence of corporate authority attached.

END OF PAYMENT BOND

WORKERS' COMPENSATION INSURANCE DECLARATION

MAST PARK IMPROVEMENTS CIP 2008-53

FOR THE CITY OF SANTEE

Section 3700 of the Labor Code provides in part as follows:

"Every employer except the state shall secure the payment of compensation in one or more of the following ways;

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state.
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his/her employees..."

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.

Company Name: _____

Signatory Name: _____ *(Print)*

Title: _____

Signature: _____

Date: _____

(In accordance with Article 5, commencing at Section 1860, Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this Contract.)

***NOTE: APPROPRIATE NOTARIAL ACKNOWLEDGEMENTS OF EXECUTION
BY CONTRACTOR MUST BE ATTACHED.**

**WORKERS' COMPENSATION INSURANCE CERTIFICATE
(Continued)**

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")
appeared _____, who proved to me on the basis of satisfactory
Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)
☐ Partner(s) ☐ Limited
☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:
Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above